THE OLD TIMER'S BULLETIN

OFFICIAL JOURNAL, ANTIQUE WIRELESS ASSOCIATION, INC.
Published for the Old Time Wireless Operator, Historian and Collector

Vol. 15 MARCH 1975 No. 4

FROM HEADQUARTERS

Notes from the President's Desk

1975 is well under way and with the new year have come continued activities for A.W.A. members. The Old Time Transmitting Contest is always fun.. Then there are the upcoming meets -- California in April, Indiana and Breesport this summer and Rhode Island in the fall. And, of course, the Annual Conference at Canandaigua Oct. 3 & 4 is the big event.

I hope you can participate in some of these. Also there is the new Museum at East Bloomfield which will be open two days each week from May until October. Visit it if you can.

The Museum Fund is now over $15,000 from 175 members making a good start toward our goal setting up the new museum and its endowment. Further contributions will be coming in this year and those who make gifts before September will receive special recognition. If you have not already sent in your check, do so now and join your friends in A.W.A. in making this new museum outstanding.

If you want to send in a second check now or later, it will be most welcome and helpful. In fact, several members have made bequests to A.W.A. in their wills. You might like to consider doing this in yours. If you have a special activity you want to support,write me for details. Bequests can be made in money or in equipment under various conditions.

73, Chuck

Association News

A.W.A. GROUP IN WINSTON-SALEM

A meeting was held January 5th at the home of L.W. Elias, W4DBT for the purpose of organizing a regional branch of the Antique Wireless Association. Attending were Zeke Hulett (WA4TPX), Frank Owen, Mike Kolischak, Val Valentine (K4JO) and Wayne Nelson (W4AA).

Their objective is to provide an opportunity for local and area members to meet one another, exchange ideas as well as equipment which heretofore has been difficult since there have been no A.W.A. "meets" in their section of the country.

The group discussed plans for a weekend get-to-gether in Winston-Salem in July for a swapfest, flea market and symposium (Western Electric Company has offered the use of their facilities including an auditorium and a fine display area).

The Winston-Salem A.W.A. group welcomes members in the area to join them and are seeking suggestions for making the group a meaningful chapter. As an example, they have already discussed an AWA emblem or stamp (noted elsewhere in this Bulletin).

The group will have full co-operation from A.W.A. Headquarters who will publish date and other information concerning the July "meet" in the June Old Timers Bulletin. In the meantime, send comments and queries to:

L. W. Elias, W4DBT
3919 Poindexter Drive
Winston-Salem, N.C. 27106

LADIES PROGRAM

The Conference Committee has started to draw up plans for the 1975 "meet". What type of program would you prefer? Shopping trip to Rochester ? Museum or Art Galleries ? Did you like the Fred Astaire movie shown last year ?

Have all activities at the Sheraton ? -- or do you prefer trips outside of Canandaigua area ? Write and let us know your thoughts.....

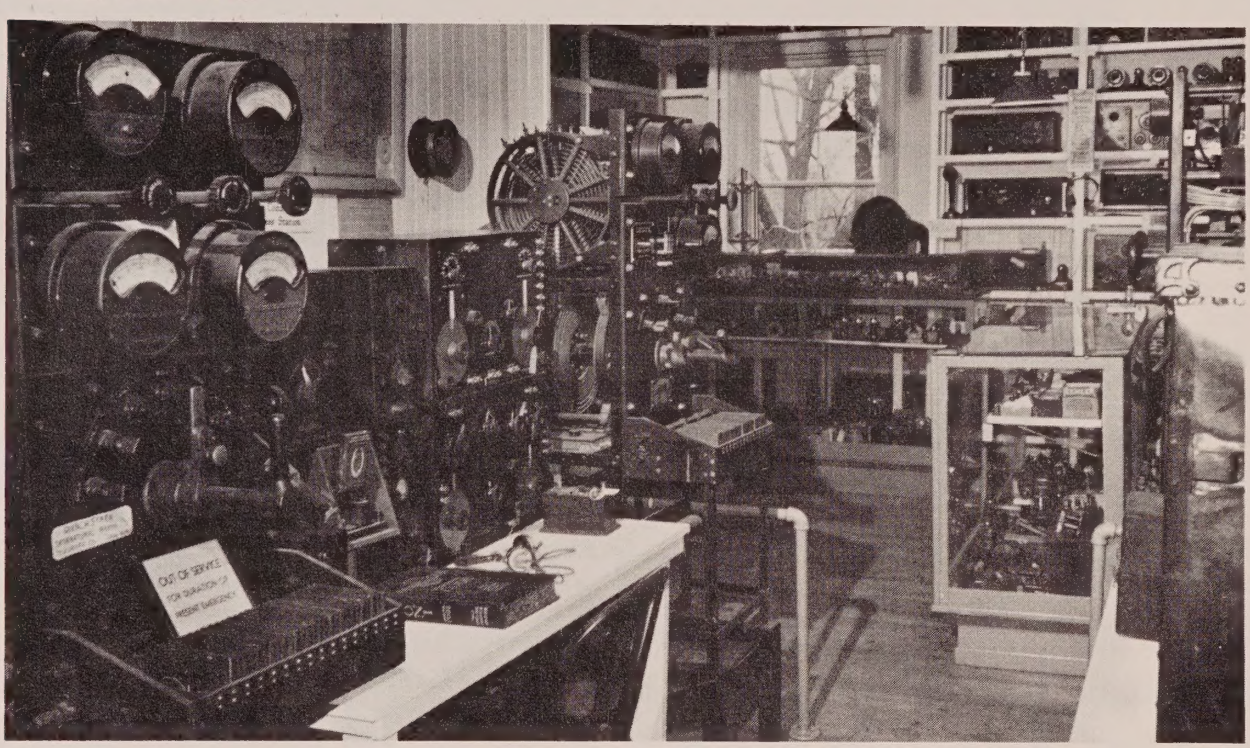
KEY COLLECTOR

The June BULLETIN will feature an article on collecting radio and telegraph keys in Australia by Allan Shawsmith.

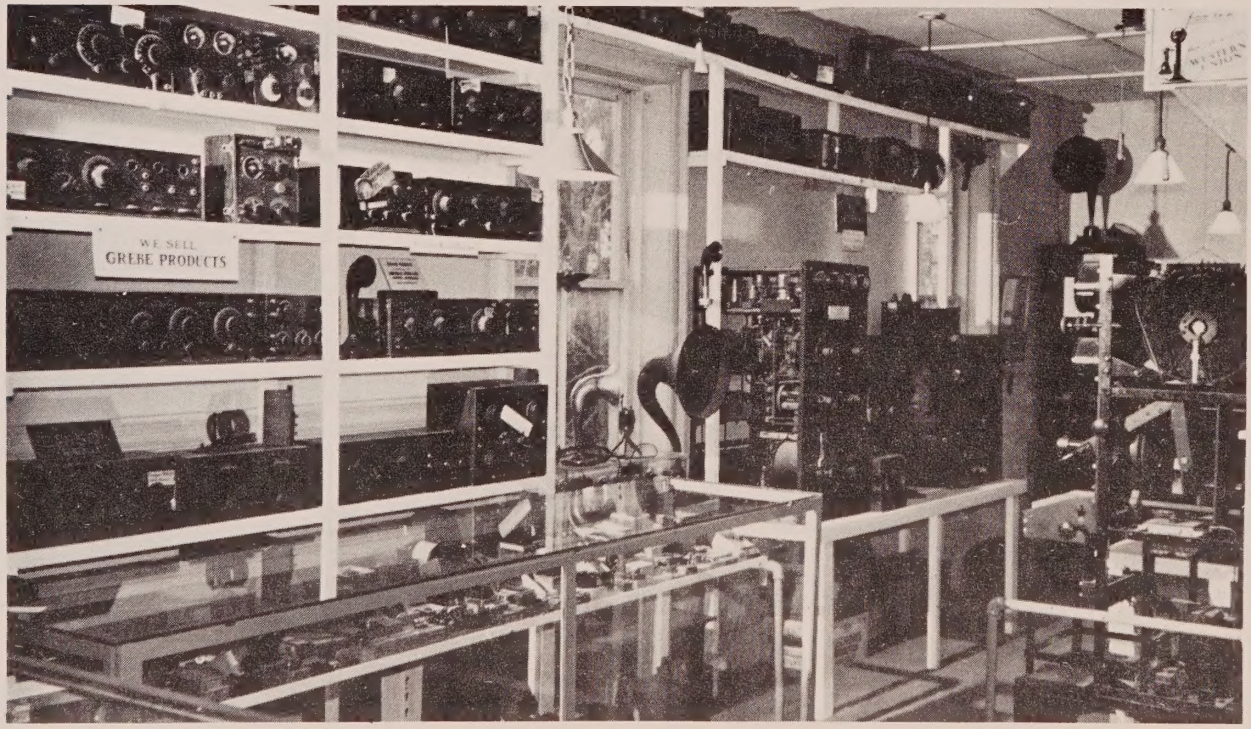
THIS IS YOUR MUSEUM

TARGET DATE FOR OPENING: MAY 1ST, 1975

About the time you receive this Bulletin the workcrew will have finalized their spring schedule to complete the Museum for the May 1st opening. Major tasks will be electrical wiring, arranging display cases and moving equipment into the Armstrong Room. Work on the third floor will be limited to wiring which has to be completed for State Inspection. This part of the building will not be finished until late fall.



Partial view of the now completed shipboard installation with the 1925 store in the background. Not seen is commercial broadcast equipment.



View from opposite direction this time with store in foreground. Not seen is the telegraph section at right. This "L" shape room and the library were finished last October. (Photos - W2BWK)

NATIONAL HISTORICAL RADIO CONFERENCE

1974 OLD GEAR CONTEST

The Old Gear Contest held at the 1974 Conference (Canandaigua) added several new classes to encourage our members to bring their special and unique items for all of us to admire and study. The number of entries and the comments indicate your approval of the expansion. The classes and winners in each are noted below. Pictures of the transmitters are in the AWA Net Section. Please send in your suggestions for this year.

Contest Committee: Ralph Williams, Mel Comer and John Drake

Contest Winners

CLASS I TRANSMITTERS (12 entries)

First - Peckham (Armstrong FM trans.)
Second- Brooker (DeForest OT-10)
Third - Lightfoot (1931 CW trans.)
Hon. Men.- Douglas (Zenith WNP trans.)
Hon. Men.- Vermond (TNT transmitter)

CLASS II HOMEBREW - 1920 & after (6 ent.)

First - Bennett (3 tube w/honeycomb coil)
Second- Greene (Replica DeForest P-300)
Third- Lightfoot (Regen. w/sep/tuner)

CLASS III BEST RESTORATION (7 entries)

First - Peckham (Stromberg-Carlson)
Second- Lightfoot (Federal 57)
Third - Douglas (Glass panel Acme Reflex)

CLASS IV-A UNIQUE ITEMS Radio Related (19 entries)

First - Whitlock (Orig. RJ-9 w/Audion)
Second- Muchow (Poulsen Arc unit)
Third- Pavek (Tone tester)
Hon. Men.- Wooters (W.E. 202 tube)

CLASS IV-B UNIQUE ITEMS Wire Related

First - Greene (E.I. Co. battery)
Second- Brooker (20th Century key)
Third - McGuire (Repeater)

CLASS V PRE-1920 RECEIVERS (5 entries)

First- Whitlock (1916 Marconi xmtr/rcvr)
Second- Brooker (Carter relay receiver)
Third - Brooker (Clark Wireless System)
Hon. Men.- Douglas (Crystal receiver)

CLASS VI REGENERATORS (5 entries)

First - Caperton (3 tube Echophone)
Second- Peckham (Paragon 3A)
Third - Brooker (Clapp-Eastham HR/HZ)

CLASS VII TRF RECEIVERS (3 entries)

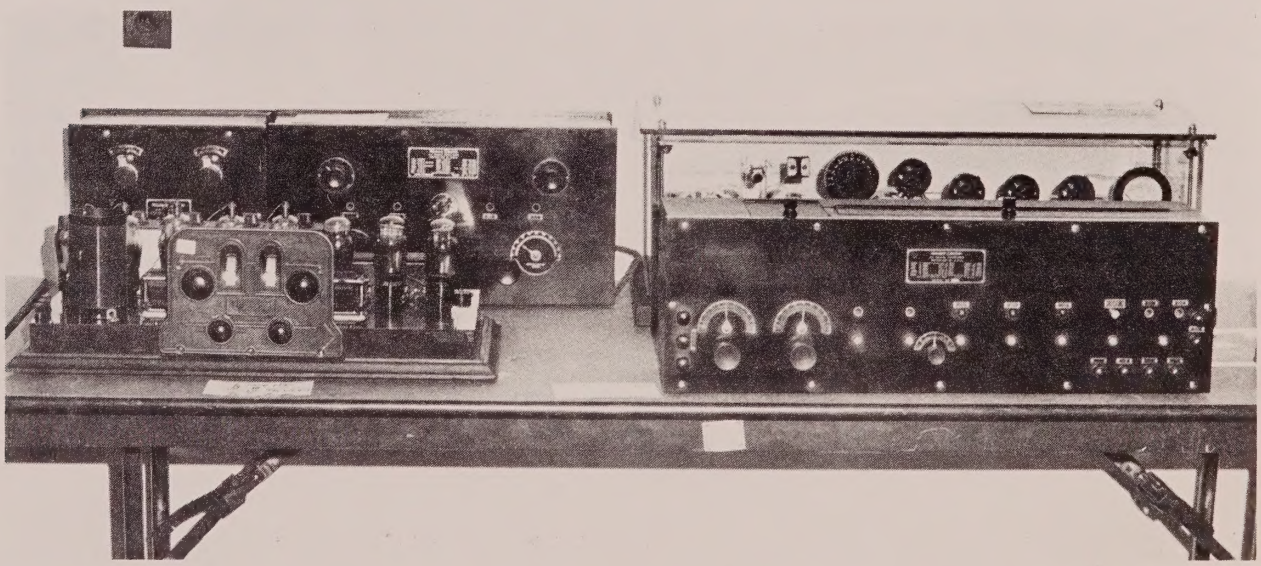
First - Muchow (Burndept English set)
Second- Wilkes (Glass panel TRF)
Third - Wade (Grebe Synchrophase)

CLASS VIII SUPERHETS (4 entries)

First - Muchow (W.E. 4A)
Second- Boettcher (Haynes Griffin)
Third - Caperton (Lincoln)

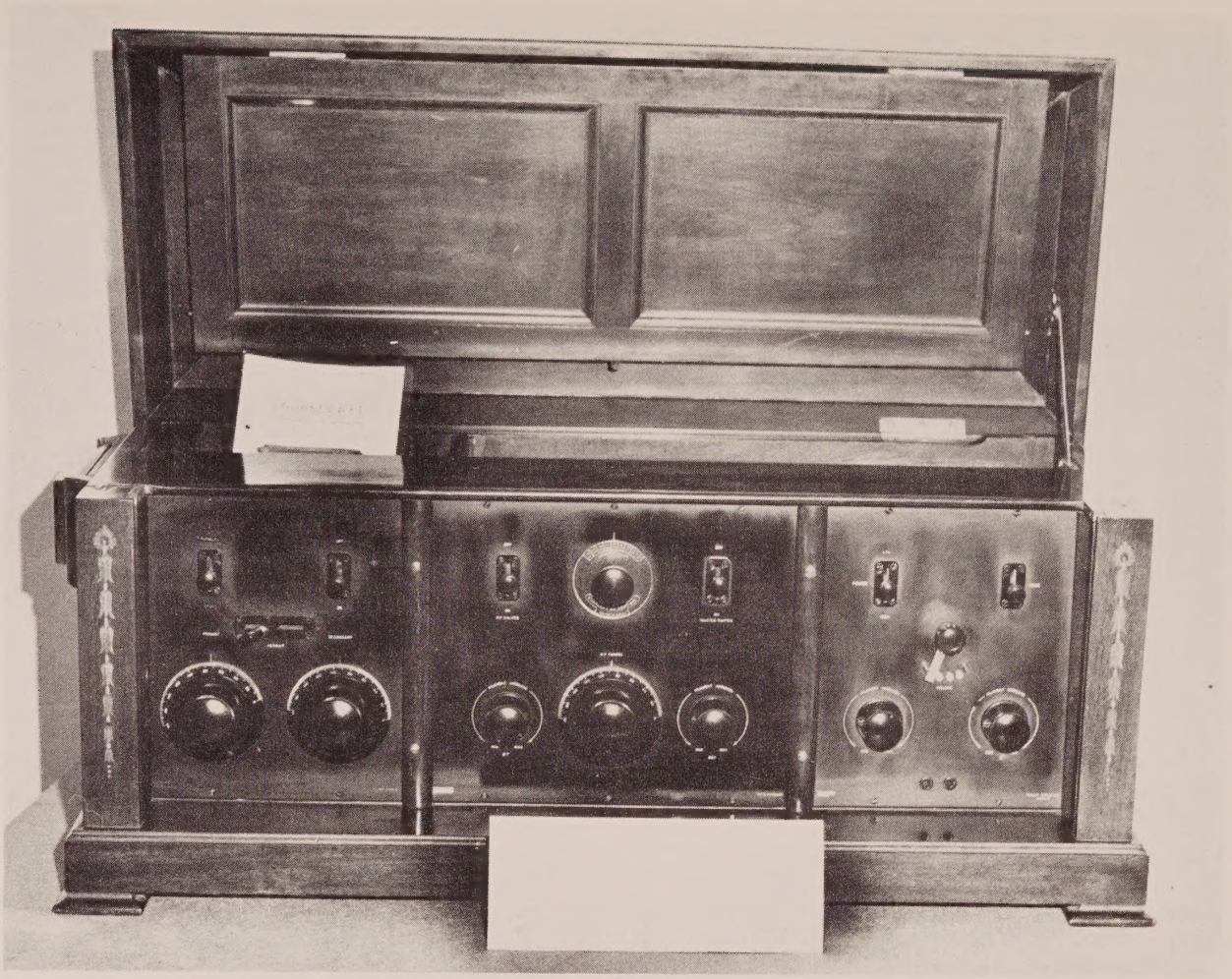
CLASS IX CRYSTAL SETS (9 entries)

First - Muchow (German Navy receiver)
Second- Brooker (Marconi Mark III)
Third - Denk (Atwater-Kent)
Hon. Men.- Wilkes (Ethophone)



WIDE VARIETY OF ENTRIES

Silver-Marshall left foreground with W.E. 4-A at right. W.E. 2-B and 4-B left rear with plate glass set rear right.



TRF WINNER

1st Prize in the TRF Class was a 1925 English 5 tube set made by Burndept called a "Ethophone Grand". This beautiful set was used by the Viscount of Kendleton Hall.

CABLE KEYS

Key collectors can break their interests into several categories such as landline, radio, semi-automatic, etc.. An area seldom touched on, however, is the submarine cable key. Although a distant cousin of the telegraph key, it is a rare specimen and seldom seen.

This naturally presents a challenge to key collector Lou Moreau who is digging into every old book she can find on the subject.. and her digging has not proven too fruitful for seldom if ever is this odd looking key mentioned.

Old text books tell about receiving the early cable signals (light galvanometers, siphon recorders, etc.) but nary a word about sending other than the need to send slow because of the great capacity in the cable..

Any info on cable keys would be appreciated..write W3WRE.

SATURDAY, APR. 5TH is workday at the new A.W.A. Museum. Volunteers wanted.

A.W.A. HISTORICAL MUSEUM

ACADEMY MUSEUM
East Bloomfield, N.Y.

Formal opening:
SUNDAY AFTERNOON, MAY 4, 1975

SCHEDULE

Museum Hours

May through October

SUNDAY 2 to 5 P.M.
WEDNESDAY 7 to 9 P.M.

Open other times to school, radio clubs and engineering groups by advance appointment.

-- No admission charge --

For further information, telephone
315-657-7489
716-244-9519
716-663-0856

CALENDAR OF EVENTS

MARCH 8 WASHINGTON, D.C. Annual QCWA Dinner- A.W.A. Program
APRIL 4 ROCHESTER, N.Y. A.W.A. Program- R.A.R.A. OT Nite
APRIL 5 EAST BLOOMFIELD, N.Y. Work program AWA Museum- Luncheon
APRIL 11-14 NEW JERSEY Informal historical itinerary
APRIL 19 SAN MATEO, CALIFORNIA Society Wireless Pioneers-AWA Program
APRIL 26 LOS GATOS, CALIFORNIA A.W.A. WESTERN REGIONAL MEET Foothills College
MAY 3 BREESPORT, N.Y. A.W.A. SPRING MEET,Peckham Museum
MAY 4 EAST BLOOMFIELD, N.Y. FORMAL OPENING A.W.A. MUSEUM
MAY 31 ROCHESTER, N.Y. Western N.Y. Hamfest- A.W.A. Exhibit
JUNE 21 WEST LAFAYETTE, INDIANA Purdue University. See June OTB
JULY WINSTON-SALEM,NORTH CAROLINA W.E. Auditorium-details in June OTB
SEPT. 12-14 RESTON, VIRGINIA National ARRL Convention- AWA Exhibit
SEPT. 13 RESTON, VIRGINIA Society Wireless Pioneers-AWA Program
OCTOBER 3-4 CANANDAIGUA, N.Y. NATIONAL A.W.A. HISTORICAL CONFERENCE
OCTOBER 18 EAST GREENWICH,RHODE ISLAND A.W.A. FALL MEET,N.E. Wireless Museum
NOVEMBER 9 EAST BLOOMFIELD, N.Y. ANNUAL A.W.A. BUSINESS MEETING/DINNER

ORGANIZATIONS TO JOIN

which publish a paper with historical material.

For the Historian and Collector:

ANTIQUE RADIO CLUB OF AMERICA
516 Country Lane
Louisville, Kentucky 40207

CANADIAN VINTAGE WIRELESS ASSOCIATION
102 Parkhurst Boulevard
Toronto M4G2E6 Ontario, Canada

INDIANA HISTORICAL RADIO SOCIETY
2505 Kickapoo
Lafayette, Indiana 47905

For the Old Time Radio Operator:

DE FOREST PIONEERS
254 Vincent Avenue
Lynbrook, N.Y. 11563
(former DeForest employees)

MORSE TELEGRAPH CLUB
713 South 49th Street
Lincoln, Nebraska 68510
(Telegraph, commercial and amateur operators.)

OLD, OLD TIMERS CLUB
517 Anderson Way
San Gabriel, Calif. 91776
(Amateur and commercial operators who have been licensed 40 or more years.)

SOCIETY OF WIRELESS PIONEERS
Box 530
Santa Rosa, Calif. 95402

Note: Several of the above organizations require a sponsor and have some membership restrictions. All require filling out a membership form.

"The Prize Drawing"
—or "After the Raffle Was Over"

ALL-AMERICAN
LONG WAVE
RADIO-FREQUENCY TRANSFORMER
(4,000 to 10,000 Meters, 75 to 30 K. C.)
Suitable for all long-wave radio-frequency circuits, such as Reflex, Super-Heterodyne, Ultradyne, etc. Designed by the same engineers who created the celebrated All-American Audio- and Radio-Frequency and Power Amplifying Transformers. Placed on the market only after long and thorough tests. Again All-Americans lead!

THE MUSEUM

ACADEMY MUSEUM East Bloomfield, N.Y.

EQUIPMENT DESIGNATIONS

In the current move from the old to new museum, the Museum Committee will attempt to inventory all pieces of equipment. Each item will bear a new tag with the Inventory Number which will be entered on the Master Inventory Record. The record will serve several purposes such as insurance value, donor's name, duplication record, historical category, location, etc.

Members may be interested in how we are setting up the Code System. Although many items already carry a tag with the donor's name, a new tag is being added with an identification letter and number. The letter signifies type of equipment and the number the Inventory series.

As an example: R-136 indicates Receiver #136. This is recorded on the Inventory Sheet with several sub-codes telling more about the set. (i.e. - a small "b" means broadcast and "y" indicates 110 v. AC power source.)

Following this are classes which denote year manufactured:

CLASS I Historic	Prior to 1910
CLASS II Antique	1910 - 1920
CLASS III Vintage	1921 - 1930
CLASS IV Classic	1931 - 1940
CLASS V Contemporary	1941 to date

Next is the Condition:

#1 -- GOOD #2 -- FAIR #3 -- POOR

Lastly, is the Location Code. The new museum has 9 areas: I thru IX.

The complete record for the above set then could be listed as:

R-136-b-y-IV-2-III

In addition to the above code, the Inventory Record will give the donor's name (and call letters).

A.W.A. HISTORICAL MUSEUM FUND

Much consideration has been given how to recognize donors to the current Museum Fund Drive. When the drive was originally suggested almost 2 years ago, some thought was given to placing the donor's name on a showcase. This was a swell idea at the time but now impractical -- there are too many donors and only a few showcases !

Instead, the Committee has elected to follow a practice of other non-profit organizations; namely, assign names to different areas of the building. The largest area will be sponsored by the greatest number of donors within a predetermined contribution range, etc.

Each donor's name will be engraved on a plaque which will be permanently mounted within the building. These are the areas and names selected for the A.W.A. Museum:

Armstrong Hall	(Main room)
De Forest Store	(1925 store)
Marconi Room	(Commercial area)
Morse Office	(Telegraph area)
Maxim Station	(Amateur area)
Hertz Library	(Library)

Will your name be permanently engraved on a plaque ? Send your tax-deductible donation to the Treasurer before Sept.1

A NOTICE

A.W.A. Museum does not acknowledge tax-deductible equipment without prior approval from the Museum Committee. This is common practice with all museums. In other words, do NOT send items to A.W.A. and deduct value from your income tax. Each piece must follow I.R.S. procedure including independent appraisal and acceptance by A.W.A. If there is any question, consult your attorney or write President Brelsford (or A.W.A. Attorney).

OLD TYME HAM ADS

OLD TYME ADS are FREE to members who are interested in collecting and restoring historical equipment as an amateur. They are not to be abused.

RULES FOR ADS:

1. Material must be over 25 years old and related to radio or electricity.
2. Ad MUST be written on separate sheet of paper --- not part of letter. For acknowledgement-- send S.A.S.E.
3. Give full address, Zip number and call letters (if any).
4. AWA will not print repetitious ads or ones indicating regular sale for profit.
5. The Association is NOT responsible for any transaction.
6. AWA retains the right to reduce size of ad if OVER 8 lines including address.
7. Only ONE ad per member per issue.
8. All ads must be received 6 weeks prior to mailing date. (See deadline dates on this page.)
9. Mail to: Antique Wireless Assn. Main St, Holcomb, N.Y. 14469

WANTED: Vol. III Rider's Perpetual Trouble Shooting manual. Still looking for socket for my W.E. 212-D tube. Leland Smith, W5KL,Rte. #3, Jasper, Arkansas 72641

FOR SALE: Rider's Manuals Vol. 6, 10, 12,14,17,18,19. $5.00 each. You pay postage. Doug Houston,3960 Three Mile Drive, Detroit, Mich. 48224 Tele.: 313TU2-1836

SELL: Large collection of literature-early books, amateur callbooks,handbooks, owner's service parts,tube manuals -- some in 20's, most in 30's. Send large SASE for list. Ron McClellan, 604 Darby Rd., Haverton, Penna., 19083

WANT: Stromberg-Carlson 1-A neutrodyne, Radiolas Grand,IV,X,24, pair of Freed-Eisemann AFTs,original sales literature & booklets for RCA,AK,Zenith, etc. John Wolkonowicz, 11 Hartford Road, Worcester, Mass. 01606

SELL: 400 brand new 7C6 tubes. In lots of 10 or more @ $1.25 each plus postage. Want A-K driver for my A-K horn spkr. George Brehm,Box 462, Norwalk,Calif. 90650

FOR SALE: Genuine Parkin Mfg. Co. boxed parts as mfg. in early 20's. SASE for list. Also have for sale or swap a Type 4445 early Mod. 9 A-K with Type 11 tuner and coupled circuit tuner (no variable condensers). Joe Horvath, W6GPB, 522 Third St., San Rafael, Calif. 94901

SELL: Eby UX & UY, Kellogg UX, A-K single UX, Frost UX and other sockets. All new and un-used. Frank Pagano, 1835 West 7th St.,Brooklyn,N.Y. 11223

FOR SALE: Send SASE for list of old radio publications. R.W. Randall,K6ARE, 1263 Lakehurst Rd.,Livermore,Calif. 94550

TRADE: AK-35, fair less tubes for other AK battery sets. Bring your receiving tubes to Rochester Hamfest, I will be there to buy any quantity. Greg Gallo, 1 Jay Street, Binghamton,N.Y. 13901

WANTED: ARRL certificates (membership, ORS,WAC,etc.) dated prior to 1930. Also want early ARRL National Convention material. Want to correspond with amateurs who lived in Virginia prior to 1921. Phil Sager, WB4FDT, 3827 N.Abingdon St., Arlington, Virginia 22207

SELL over 100 each assorted WWII crystals and tubes. S.A.S.E. for price list. Al Fitch, W3AW, 9406 Evans St., Philadelphia, Penna. 19115

HELP: still looking for Kennedy 220/525 owner's manual. Photocopy OK. Also Kennedy headphones and Crosley 59 AC chassis. Greg Dockter, 1913 Kennedy Ave.,Bismarck, N. Dakota 58501

WANTED: any factory made crystal set. Will buy or trade battery sets and tubes for good items. Bob Lessard, 4807 N.E. 5th St., Minneapolis, Minn. 55421

WANTED to restore CR-18- RF unit and variable condenser,tuning wheel & shaft & escutcheon (similiar to one on Grebe Synchrophase). Also need original rheostat..& 25000 ohm type grid leak called stabilizer. Wes Chatellier,W5DPM, 1950 Chevelle Dr.,Baton Rouge,La. 70806

TRADE: AK breadboard parts for other AK breadboard parts and swap my dupe AK breadboards for yours. SASE for list. Arnie Schwartz,WB6PJC, 4728 Dunman Ave., Woodland Hills, Calif. 91364 Tele. 213-888-0236

SELL or swap: battery sets,tubes, speakers, etc. Send SASE for list. Bob Lane, 2301 Independence Avenue, Kansas City, Mo. 64124

WANTED: Single tube socket with rheostat for AK board, detector or RF, with or without terminals. Have board parts for trade or will pay cash. Ross Smith, 1133 Strong Ave., Elkhart, Ind. 46514

WANTED: Front panel tube cover for Radiola 26, Fiber horn for Brandes driver, AFT for deForest D-10. Have front panel and plate for deForest D-12..$6.00 Write Glenn Eckley, 1605 Unverness Rd.,Baltimore, Md. 21222

DEADLINE FOR OT ADS

Jan. 15 ------ March issue
Apr. 15 ------ June issue
July 15 ------ Sept. issue
Oct. 15 ------ Dec. issue

WANTED: need battery cable and transformer for Radiola III-A, Will buy. Harry Carver, 205 Mission Ridge Road, Rossville, Georgia 30741

TRADE or buy - need cabinet for Atwater Kent Model 30 receiver, old parts and tubes. Henry Davis,1201 Riverside Dr., Indialantic, Florida 32903

WANT: Brass from broken Westinghouse WD11. Will buy or trade new RCA Radiotron WD socket. John Wasiewicx,W2DQC 229 Sarles Lane, Pleasantville, N.Y. 10570

WANTED: Any RME receivers, DB-23 preselector, vintage handbooks and construction literature, parts for homebrew construction of early ham gear. Richard Cohen, 1883 Ravenwood Way, NE, Atlanta, Georgia 30329

WANTED: driver and base for 14" bell Magnavox horn. John Green, 5540 Hickory St., Omaha, Nebraska 68106

WANTED: Any information on Tri-Cities Radio Co. and their radios will be most appreciated. Jack Smith, Rte. 2,Box 418 Gainesville, Florida 32601

WANTED: Magnavox TRF-5 dial,knobs and cabinet,Ak10A last rf coil & form tuning cap. and can, bypass cap. also Savelle spark wheel motor and stat. contacts,Radio shop 3 tube Meteor cabinet. Brass Bristol driver & base. W. Harder, 911 Northup W.,Lansing,Mich. 48910

FOR SALE: Combination 35 mm. film strip proj. & 78 rpm record player $10.00 1930's Beede 0-150 ma. dc meter $10.00 Case 5 tube TRF,3 dial radio less tubes $25.00 All FOB, James Fred, Rte. 1, Cutler, Indiana 46920

FOR SALE: RCA Model M116 early automobile radio. Make offer. John Webb, W6RCW, 4919 Schuyler Dr.,Carmichael, Calif. 95608

NEED cabinet for DeForest D-12 receiver. Bob Allison, 160 South Country Rd., East Patchogue, N.Y. 11772

WANTED: early small screen TV sets and literature for same. Have battery and AC sets for swap. Send fotos if possible. Jim Clark, 1617 Roselawn, Lansing, Michigan 48915

TRADE: Antique radios, tubes and parts for crystal sets,tape recorders,gramaphones,records or cylinders. John Whitacre, 2609 Devonshire,Lansing, Michigan 48910

WANTED for collection Model X upright Vibroplex, JHB "sideswiper" or "Cootie" key. Atkinson sounder-repeater. Lineman's pocket key and sounder set. Don deNeuf, 602B Heritage Village, Southbury, Conn. 06488

WANT: Photo. sketch or copy of instruction sheet inside lid of DeForest Everyman Crystal set. John Whiting, R.D. #2, Dover, New Jersey 07801

SELL: Hallicrafter collectors- Model SR-75 transmitter, receiver plug-in transmitter coils 10 to 80. Limited production. Price reasonable. W1AOG, Don Guptill, 17 Park St., Ct. Medford, Mass. 02155

WANTED: G.E. ER-753, info on receivers mfg. by Apex Electric Mfg. Co.,Radiola I, II, IV, V and VI. John Webb, W6RCW, 4919 Schuyler Dr.,Carmichael,Ca. 95608

SELL: Group of early radios, speakers, earphones, etc. Send SASE for list. Bill Sprentall, 331½ East Lake Road, Canandaigua, N.Y. 14424

HELP: Seek whereabouts of Don Lippincott, engineer with Magnavox in the 20's or anyone who was with him at that time. Art Harrison, 1021 Falcon Drive, Columbia, Mo. 65201

WANTED: RCA Radiolette Model R-5,state condition and price. Will fabricate and Gorton engrave front panels in trade for antique radios of equal value. Norman Parsons, 22 Forest St., Branford, Conn. 06405

SELL: Giant Radiola 32,super '27 near mint. Has 7 99's and 4 71A tubes. $85 plus pack & ship. Scott A-W 15 RF chassis only circa 1934 $65. Hammarlund Super-Pro circa 1940 $75, Ak-30 & 40, Philco 20 chassis @ $20 ea. tubes,telegraph, etc. Want Crosley, Pup, Ace, Mod. 50,51,52. Chet Wisner,W1VSR, 1014 Main St., Dalton, Mass. 01226

SELL: McMurdo-Silver Masterpiece V receiver complete with custom bass-reflex cabinet and heavy duty speaker. Set in almost mint condition, may need slight alignment. Write: A.H. Roberts, 726 McGavock Pike,Nashville,Tenn. 37214

OLD TYME HAM ADS

WANTED: Bakelite tube socket plate for Radiola III,case for Thermodyne TR-6, 2 side doors for Radiola Regenoflex, metal dials for Clapp-Eastham ZRFDA & one DV-2 tube. Wilford Wilkes,Box 43 Brisbin, Penna. 16620

WANTED:Pilot literature and all types of Pilot parts,resistors,condensers, tubes,binding posts,etc. especially AFT and 10 ohm rheostat for Wasp. So pack up $5 or $10 box and send COD to: A.C. Stoddard,W8KLN,1502 Briarwood St. Lansing,Mich. 48910 (Tele.517-482-9538)

SELL or TRADE: over 1000 knobs & dials, send description,Polaroid pix or pencil rubbing. Have telegraph sounders,relays, early telegram blanks,catalogs, 1st issue QST. Send SASE for list. Jim McGraph, W2IOJ, 2 Centerview Lane, Gardenville, N.Y. 14224

FOR SALE: Kennedy 220 and 525 amplifier, plus wireless items by Marconi,E.I. Co., DeForest and others. John Brooker, 730 Randolph Rd., Mogadore,Ohio 44260 Tele. 216-628-3691

WANTED: Marvel crystal receiver described in January OTB Radio Receptor Story. Defective WD-11 and 12 tubes @ $1 each ppd. SELL: WD-11 replacement new 864 with custom adapter @ $7.85 or will rebuild your WD-11 @ $3.85 1st Class ppd. D.B. Whittemore, W2CUZ, 36 Masterton Rd. Bronxville, N.Y. 10708

WANTED: will trade Atwater-Kent sets, old C.W. equipment,antique parts,early trans. & receiving tubes,wire recorder, etc. for-- Crosley Pup,Federal crystal set,Kennedy & Grebe sets or parts & wood bell for M.M. horn. Bill Laverty,RD #1, Box 62K,Egg Harbor, N.J. 08215

WANTED: National NC-81X receiver in any condition provided the movable coil is intact and original,also the sliderule dial frame must be good. Cash or swap. Bill Lightfoot,W1PEG, RFD 2, Groton, Vermont 05046

WANTED: Radiola's 2 and 26. State condition. Do not need tubes for them. Al Jochem,2047 College Ave., Quincy, Ill. 62301

WANTED: parts and tube for deForest RJ-6, Zenith R-4, coils for SW-5. Have AK-10 and Scott (with coils) for trade. E.A. Smith, 2706 Cubhill Rd.,Baltimore, Maryland 21234

FOR SALE: Webster Wire Recorder Mod. 80, in good condition. Will include 12 assorted spools of Webster wire. send offer to: Robert Base, 4105 Alto Road, Baltimore, Maryland 21216

---NOTICE---

The situation is getting out of control. The original purpose of the OLD TYME ADS was to provide a free space for amateur collectors to buy, sell and swap radio material. We are now receiving full page ads listing dozens of pieces(!)..Further, some members are sending 2 or 3 ads per issue and others are trying to sell non-radio parts. Lastly, ads are received without the member's address. You're killing a good thing fellows.
Since the ads are FREE, starting immediately all material must follow the rules noted at the head of this column. If your ad is not printed, you know why....

FOR SALE: RCA Victors- Mod. 7-3 Radio/record player $275, Alhambra I $275, Orthophonic Credenza $350, high quality microphones & early radio books,Grandfather clock radio, self-winding clock and Erla radio in Pooley cabinet,circa 1930. Bruce Hertzberg, 343 Wagaraw Rd., Hawthorne, New Jersey 07506

ELECTRICAL WORLD mags wanted to borrow, after 1903, also their history and successor, if any. Lacquer-Stiks @ $1 or 2 for $1.50 ppd. Alan Douglas,Box 225, Pocasset, Mass. 02559

TRADE: loose-coupler (working-model) and a beautiful 1915 X-ray tube.. C.E. Clutter,Box 192,Richmond, Utah 84333

NEED: misc. parts for Norden-Hauck Improved Super Ten. Also 200 feet of #32 D.C.C. and 200 feet #20 or #22 D.C.C. wire. Steve Raymer,1508 East 19th St., Minneapolis,Minn. 55404 Tele. 871-9137

WANTED: Loose coupler (will pay for Polaroid) and W.E. 212-D tube. Paul Crum, W9LC, 6272 N. Cicero Avenue, Chicago, Ill. 60646

WANTED: Wireless gear and radio sets prior to 1924. Will buy or trade. Have small list of battery sets,books,misc. for sale.Need deForest fila. control knobs for D-7a and other parts. Write: Rick & Chris Ammon, Box 104, Mt.Carmel, Illinois 62863

SWAP: Fada 1923 neutrodyne with manual, 1924 Model 192-A Neutrolette (5 tube) console w/built-in spkr., 7" Motorola Table TV w/new 7JPA tube & magnifier for screen. Swap for battery set or AC Pilot Super-Wasp. Emmet Riggle, 369 27th St.,NW,Massillon,Ohio 44646

(Continued)

WANTED: Base and driver for Atwater-Kent Model "H" horn. Jack Bacon, 7700 36th Ave., N, Apt. 307, Minneapolis, Minn. 55427

WANTED: cabinet and audio transformer for Kennedy 525 Audio amp., DeForest fan switch, A-K breadboard parts,early wireless equipment and Wm. B. Duck catalog #14. Glen Angle, KØTAM, Clear Lake, South Dakota 57226

SELL: HRO-50, RME 6800, Crosley Showbox, Musicaire 32, Hallicrafters S-20, SX-28, Hoefer 1924, A-K 7, old car radios. Please make offer. Need old test gear, EH Scott and other sets. WA9DYE, 114 Lakeview,Milwaukee, Wisc. 53217

WANTED: Purchase or borrow for photostating-- copies of "Radio News" for years 1942,1943 and 1944. Write to: Edward C. Caffery, 2606 Whisper Hill, San Antonio, Texas 78230

WANTED: Grebe RORB detector/2 stage amplifier in good condition and crystal fetector for Radiola V. Sandy Deutsch, WB2CAD, 2851 Sutton St., Yorktown Hts., N.Y. 10598

WANTED: Brass nameplate for detector/audio TA unit of #12 A-K breadboard. Harry Williams, Pleasant Hill,Missouri, 64080 (WØINI)

TRADE: RME VHF-152 converter, Hickok 532 tube tester (will check bat. tubes), Philco table set with TV & UHF, Teletronics Lab dual trace scope Mod. E8 for -- any repairable battery or crystal sets from 20's. Charles Day, 30 Sagamore Drive, South Datmouth, Mass. 02748

WANTED: -buy or swap - "Radio Broadcast" for Dec. 1928, "Radio" all 1920 & 1921, Oct. '22, "Popular Radio" Feb. 1928, "Radio-Craft" Aug. 1929, QST - Feb., Mar., May, June, July 1920. Also 1920-1925 "Wireless Age" Paul Thompson, 2930 DeLaVina,Santa Barbara,Calif. 93105

WANTED: Base and driver for Magnavox horn speaker. Also any cathedral sets in any condition. Richard Cane, 8391 N.W. 21st Street,Sunrise,Fla. 33322

WANTED: Zenith 3-R or 4-R, Grebe CR-6, Paragon RA-6, National Browning-Drake kit parts, SW-3 knobs & Short-wave magazines, C. Byrnes, 6585 El Colegio Road, Goleta, Calif. 93017

WANTED: Several lengths of 1/16" square bus bar needed to re-wire Paragon receiver. Lyman Wenger, K8YAM, 6364 Grand River Drive, Ada, Michigan 49301

COMPONENTS

Mel Comer's comment in a recent OTB suggesting emphasis on displaying components as well as receivers brought an interesting letter and photos from Frank Nichols (W9AKH), Appleton, Wisc.

Frank feels it is just as rewarding to have shelves of shiny variometers, sets of Bremer-Tully coils, intricate basket weave coils and other selected parts -- as opposed to receivers where all these choice components are hidden inside cabinets !

I'am inclined to agree with him. As an example one could specialize on one part such as variable condensers: unique sliding variables, straight-line types and even E.I. rollup tin-foil condensers, Even AFT's have interest--how about a hedge hog audio transformer ? -- or the pretty Pilot and Silver-Marshall series ?

Maybe the Contest Committee can find room for one or two "Component Classes" at this year's Contest...(B.K.)

Partial view of Frank Nichol's display.

CANAL ZONE (PANAMA) MUSEUM

Word comes in that John Gough (an AWA member of long standing) is planning to retire from Government Service in about 5 years and may return to the States.

In spite of his location (Balboa,C.Z.) John continues to enlarge his amateur museum which has provided much interest at local hamfests and radio clubs. The collection is not entirely BC receivers. A 1914 Signal Corp buzzer (telegraph) set was recently added to the display along with several pieces of early ham gear.

Conducted by Gerald Tyne

SPEED "TRIPLE-TWIN" TUBES

The Speed "Triple-Twin" tubes were double triodes. There were three types: 291, 293 and 295. They were made by the Cable Radio Corporation of Brooklyn. The 291 was intended for use in 110 volt d.c. receivers, the 293 for use in automobile receivers and the 295 for a.c. powered sets.

In 1932 there were only the UX and UY type bases in use and only one top-cap was used. The designer of these tubes thus had available only six external connections. He solved the problem by making one of the units with an indirectly-heated cathode and tying the other grid to this cathode internally. The coupling resistor was placed in the cathode lead.

That is, the tube designer, in his attempt to reduce the number of external leads to six had unwittingly invented the "cathode-follower" circuit ! See figure No. 2. The pin connections are given in Figure No. 3.

"Speed TRIPLE-TWIN Type 295"

Fig. 2

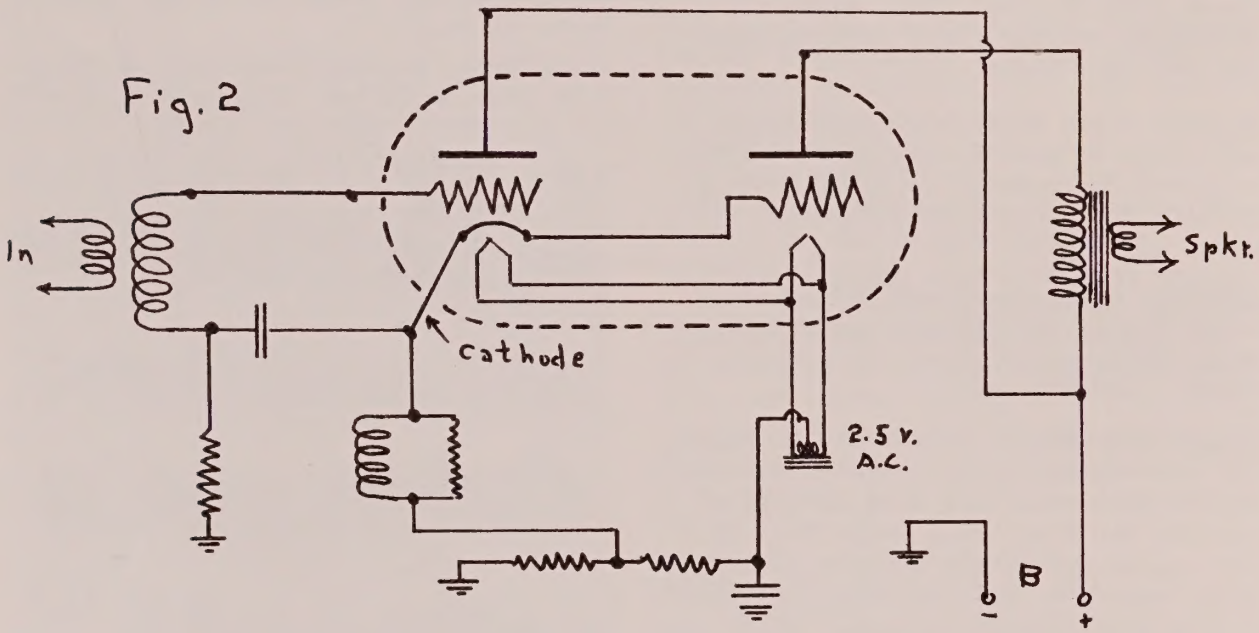
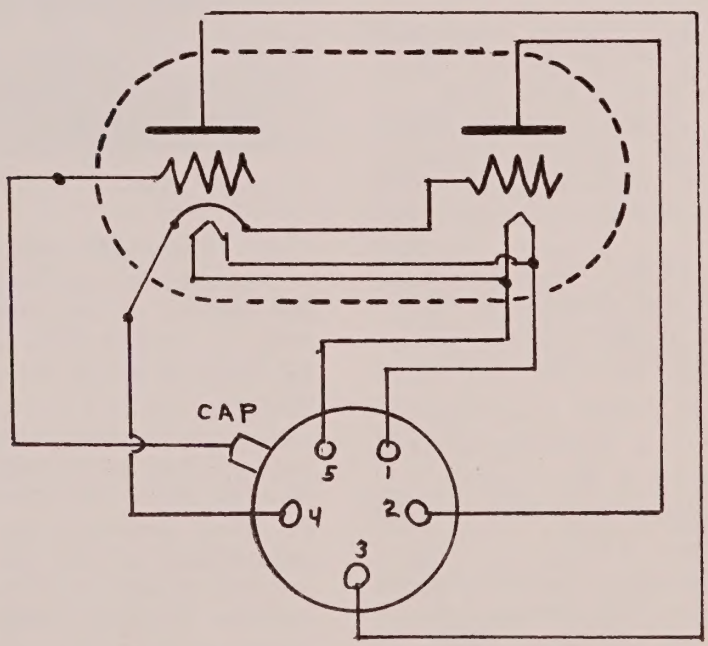


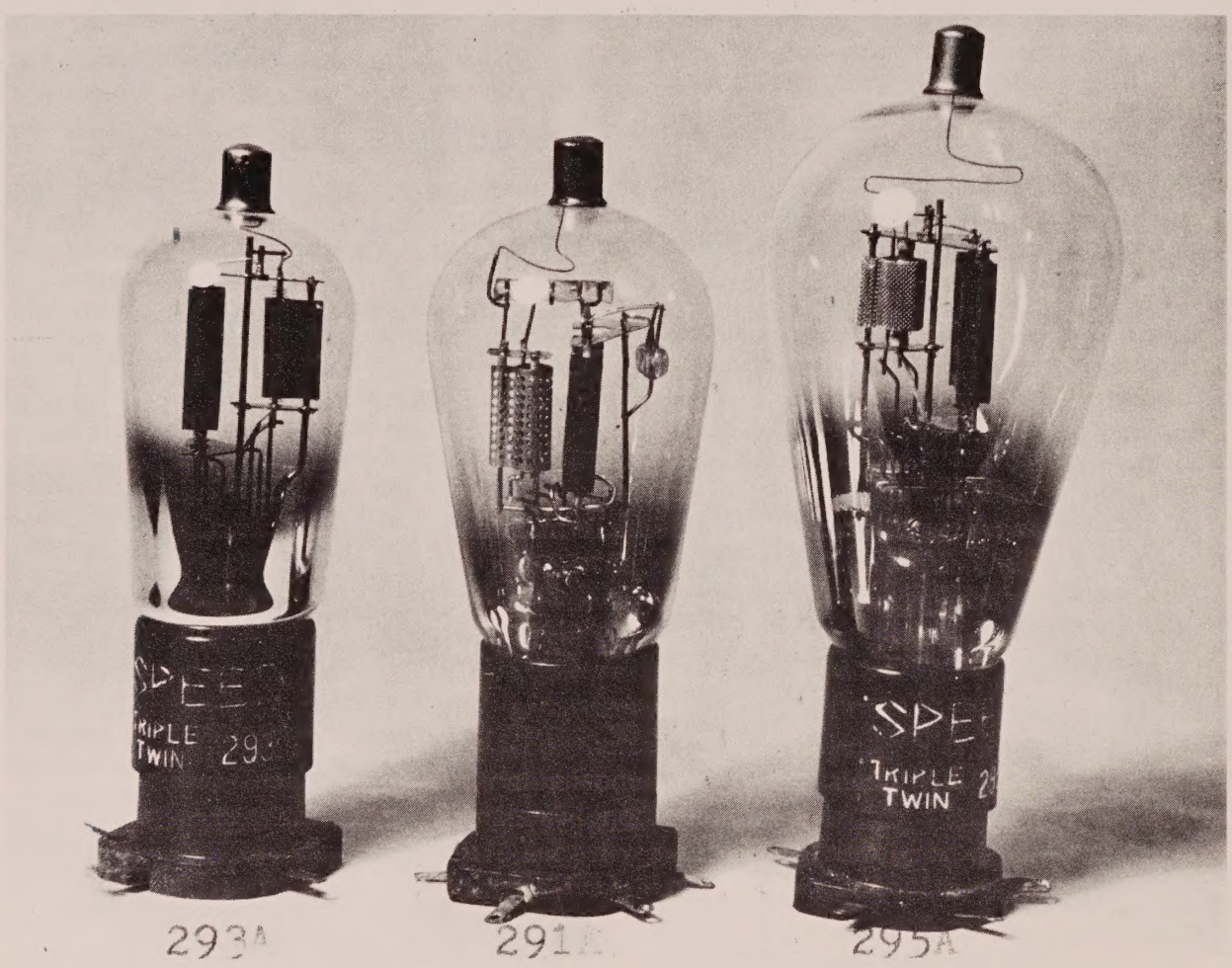
Fig. 3



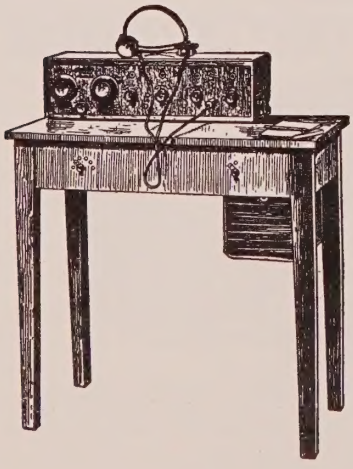
(Cont. on next page)

When the Bell System engineers devised the cathode follower for circuit reasons, the Bell system had to buy the "Triple-Twin" patent in order to use the circuit. Once this was done manufacture of the "Triple-Twin" ceased and dealers who had them in stock were enjoined from selling them. Their rarity stemmed from this.

For additional information see Proc. I.R.E., Vol. 20, No. 7, July 1932, pp. 1149-1162; Radio News, Vol. 13, March 1932, pp. 760, and Radio Engineering, February 1932, pp. 35.



Note tube construction. The two separate envelopes can be easily seen.



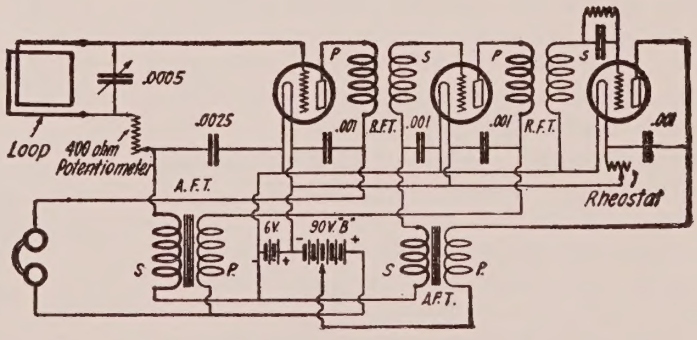


Fig. 96

The Grimes Inverse Duplex—a reflex receiver so arranged that the work of amplification is evenly distributed between the tubes. The radio frequency paths are shorter than in most reflex sets. Two stages of radio and two of audio frequency amplification are employed. Standard transformers are used throughout. This arrangement will give excellent results with a loop aerial.

RESTORING OLD EQUIPMENT

How did you SOLVE a problem when restoring an old receiver ? Drop us a note telling how you did it.

RESTORING HORN SPEAKER

Usually the collector finds a speaker with the horn missing -- but not Bruce Boyd (W3QA) who found a 1922 RCA Model UZ-1325 horn but no driver. A little ingenuity on his part and he ended up with a low impedance speaker that he could demonstrate with a present day receiver.

How did he do it ? A modern 4 inch cone speaker was placed inside an old fashion one pound coffee can. Appropriate flange was made and the entire unit painted to match the black horn.

MAKING EARLY "Spaghetti"

by Ted Woolner, WA1ABP

Since it is almost impossible to obtain real early insulating tubing (not the nice shiny stuff of later years) I hit on the following method after a little experimenting:

1. Take a wire coat hanger and cut the ends off the longest part across the bottom.
2. Obtain a pair of shoelaces (the large flat hollow type) and cut off one end.
3. Stretch the cut off end over the wire and pull on like a stocking.
4. Pull tight and fasten (maybe with a clothes pin).
5. Take your wife's nail enamel and get a paint brush slightly larger than the one that comes with the bottle...
6. Apply the nail enamel stroking it in with thumb and finger if necessary.
7. After drying you will find one more coat will not soak in but will dry nice and shiny and still remain flexible.
8. Strip off the shoelace and cut off the other end (eyelet) and zippo !! -- you have a piece of old fashion tubing ready for #14 wire, etc..

Nail enamel comes in several colors: red, brown, black, purple, etc.

(Ed. note: Ted sent AWA a piece of his homemade tubing and it looks like the real thing.)

WHAT HAPPENED TO FREE BOXES?

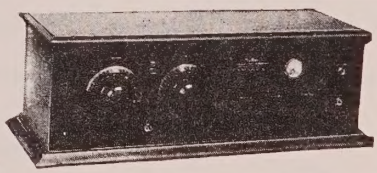
There was a time one could count on good sturdy cigar boxes to store resistors and condensers. Remember the nice wooden Gorton codfish box with the slide cover to hold pilot lamps and the like -- or maybe the five pound lard can, marshmallow can and even the beautiful hinged metal container for Whitman's Samplers candy.. and you sure couldn't beat the old tin tobacco can for gridleaks... ??

Give me the good old days when I could count on these solid containers to house all my bolts and nuts in the basement workshop. Even the old heavy cardboard oatmeal box is now so thin I wouldn't dare to wind a coil for my crystal set on one....

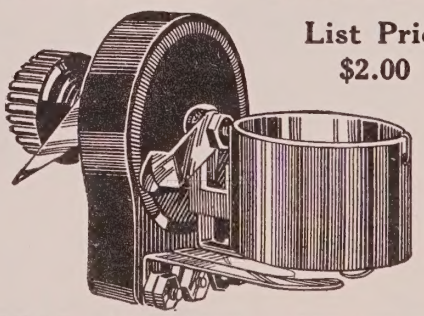
Looking at an old codfish box bought about a decade ago I noticed the price of 69¢ stamped on the side. The same product now sells for $2.75

Oh humm...mm...what else is new ?

(Above comments inspired by newspaper received from D. H. Holoday.)



AJAX SOCKET-RHEOSTAT



List Price $2.00

SIMPLE—EFFICIENT—ATTRACTIVE

Eliminates all wiring between separate rheostats and sockets. Easily mounted on rear of panel without extra brackets. Fully guaranteed as to workmanship and material.

Type A for all 1 Amp. Filaments (5 Ohms)
Type C for all .25 Amp. Filaments (10 Ohms)
Type D for all .06 Amp. Filaments (25 Ohms)

Attractive Discounts to Dealers

AJAX RADIO CORPORATION

WITH THE COLLECTORS

Lauren A. Peckham
Ormiston Road
Breesport, N.Y. 14816

JOHN FITCH (Philadelphia, Pa.) received a Radiola 17 with 100A speaker from a fellow radio ham.

BASIL ABBOTT (Mechanicsville, Va.) found a Stewart-Warner receiver plus a whole set of Western El. tubes including a rare 217-A rectifier.

GAY EWING (Breesport, N.Y.) could open an Atwater-Kent radio store. He swapped an old tape recorder for a box of old radio parts which turned out to be all AK breadboard parts in original boxes !

JOHN NOBLE (Loveland, Colo.) finally got his Crosley "Pup" which is mint. He also adds a DeForest F-5 with DV-2 tubes which picks up KSL Salt Lake and KDKA Pittsburgh !

W.H. STEED (Albany, Ga.) has one tube set made by Rector Reliable Radio Co. It came with a good WD-11 tube.

GARY MICANEK (Manchester, Mo.) added a Model 41 Apex made by U.S. Radio and a Zenith 5C51 made in 1940.

WAYNE NELSON (Concord, N.C.) promises to send photo of his 1925 Signal Corps BC-118A Radio/Audio freq. amp. which uses (6) WE215-A tubes.

JOHN WHITING (Dover, N.J.) has done well in the crystal set department. He found a rare DeForest Everyman, KenRad (in original box) and a Philmore. He topped everything off with a beautiful chrome plated Vibroplex bug !

DAVID PECKHAM (Breesport, N.Y.) opened a Christmans package and found a nice homemade 1 tube regenerative set with WX-12 tube.

CHET WISNER (Dalton, Mass.) tells of having a rare Grebe CR-5, Aeriola Sr., plus over 3000 tubes. He says prices for old gear aren't bad with dealers: hornspeakers at $1 each, Grebe Syncrophase for $10 and dealer threw in speaker for good measure..(we agree !)

BILL SPRENTALL (Canandaigua, N.Y.) is a new AWA member with a good start in collecting. He bought a Monarch crystal set at an auction with a nice Fada loose-coupler ! At another sale in East Bloomfield (not AWA !) Bill found lots of parts from an early receiver including Turney spider web coil, Murdock variable condenser, brass base tubes, etc.

DOUG HOUSTON, (Detroit, Mich.) has a rare 12" 78 rpm record made for Atwater-Kent advertising which plays inside to out. It was made in either 1933 or 34. Anyone have info on such a record ?

JIM WADES (Farmington, Mich.) really hit the jackpot with a DeForest Interpanel, Silvertone and a Marwol Jewel.

FLOYD LYONS (San Francisco, Calif.) is a tube and lamp collector who is currently collecting early books and magazines. Recent finds are: "Electric Waves" by Hertz, "Nikola Tesla" pub. by Tesla Museum, plus Vol. 1 No. 1 of "Popular Radio" and "Radio Broadcast" plus various issues of "Modern Electric" and "Wireless Age."

SONNY CLUTTER (Richmond, Utah) has renewed his interest in collecting and is starting out with rare items such as Zenith 3R, Adams-Morgan loosecoupler and an early Steinite AC set.

FRANK TURANO (Maryland) made a trip to Newfoundland last summer and brought back some gear associated with his father-in-law, a former Marconi Official. Items consist of two Marconi 10" spark coil transmitters (!), Marconi Type MSL-4 (15 to 1740 kc.) receiver, Canadian Marconi Type M.S.A. 5 amplifier and Canadian Marconi tuner Type MST-2. Frank also has other Marconi gear including a "Maggie" !

FELLOWS: Don't forget the next deadline for the column is before APRIL 10th.

ANTIQUE WIRELESS ASSOCIATION

EMBLEM

The Winston-Salem group have submitted design for an AWA EMBLEM. We at Headquarters think it is a great idea since the Association has no insignia which could be used on envelopes, letterheads and other stationery. It has been suggested that others should also send in their design before final selection is made.

So grab you pencil and make a sketch around the letters AWA. One could add an antenna symbol, circuit or what have you. Send to Headquarters and the Board will make the final selection.

NEW MEMBERS

who are or have been in the communication field.....

JACK SMITH (Gainesville, Florida)
Prof. of Electrical Engineering
University of Florida

WILLIAM TAYLOR, ex-8AK, 8CEA. Former President of Taylor Radio Co.

ED PRESTON, W2RIZ, ex-8DEN, 8CSE, Stations WDDS, WKRT, N.Y. Tele. Co.

PERRY ESTEN, W6PN/5Z4PN, ex-8BOX,W2PN, W4PN,DJØPN,EL2PN,KR6PN,etc. Radio Free Europe, etc.

B.D. SULLIVAN, K6TIN, Electronics Industry

PETER DE ANGELO (Campbell Hall, N.Y.)
TV Co-ordinator for Public Schools

DAVE BECHTOLD, W3PUZ, ex-W8PUZ, Commercial radio inst. & maint.

GLEN ZOOK, WA5STI, ex-K9STH
Commercial Systems, Inc., Motorola

ART KELLEY, W2ROB, ex-8LTJ
Station WHAM/AM/FM/TV

ART ASHLEY, W2DCF, Hammerlund, Federal Telegraph, CAA and FAA radio.

GLEN ROGERS, W9ASX/W9VTR, Electronics/ radio commun., Police radio, etc.

JOHN WILLIAMSON, W3GC, Barker and Williamson, Inc.

KEITH BAKER, VE2XL, ex-VE5KK, VO2XX
BC station CFSL & CKRM (Saskatchewan)

R. ARROWSMITH, W4JNN/W9ABS ex-9DOT
Comm. Mgr. Dept. of Army

FRANCIS SLOAT, W7AHK, ex-W9JZZ,W7CGS, Larsen Antenna Corp.

LARRY BRIGGS, W3MSM, ex-W9JZZ,W8ZZH,etc. Naval Research Lab., G.E., Commer. operator, Navy, etc.

GEOFFREY AZOY, K2GTZ (ex-3XM)
Commercial oper. KFX

CLARENCE SWANSON, ex-W9KHH Electronics Instructor

WALT MAXWELL, W2DU/W8KHK, ex-W4GWZ, etc.
Astro-electronics Div. RCA Corporation

NORWOOD TEAGUE, Curator Industrial Technology, Los Angeles County Museum

A.W.A. will provide the historical equipment at the 1975 A.R.R.L. Convention, Reston, Virginia, Apr.12-14. The Association will also present a historical program to be announced later.

What's Coming Next!

Nearly 15 years ago A.W.A. made a survey to determine the average value (selling price) of a wide variety of radio equipment ranging from tubes to commercial receivers (See OTB Vol. 2, #3). Between inflation and increased interest in collecting,the values are now out-dated. In fact, many items have increased in value by 10 times !

A new "Blue Book" price listing will appear in the June OTB as a result of a survey now being made by several AWA members. The numbers ($ value) are being determined on an average basis by referring to a large number of For Sale listings, checking with several well known collectors who have been buying and selling recently and lastly, using good common sense in deleting ridiculous numbers such as $600 for a common 5 tube neutrodyne !

The use of an electronic calculator will enable the fellows to add and average thousands of numbers. We are all looking forward to seeing their results in the June Bulletin.

AS WE SEE IT

Some economists say the current recesssion will curb inflation and lower prices and the cost of living. Not in their wildest dreams could they bring back the cost of attending a school as noted below (furnished room for 35¢ to 50¢ a week, etc....)

The note in last OTB telling of Valparaiso Tech's 100th Anniversary (formerly Dodge Institute) brought several letters including one from WØDC with this copy from Dodge's 1908 Booklet..

EXPENSES.

Full course (unlimited time)..	$45.00
(This tuition includes a five month typewriting course.)	
Text-books.....	$ 1.00
Table and room per week.....	$ 1.50
Furnished room only...	$.35 to $ .50
Washing per week.....	$ .15

NEW GEAR AT A.W.A.

TRANSMITTERS: WB2SPJ, W4HII
BOOKS: WB2SPJ, W4AKN
MISC.: W2UG, W2MA, Doug Houston
TAPES: W2AY

A.W.A. ON THE AIR

Send all old time transmitter activity and net operation news to: Ken Gardner, W2BGN
42 Oakdale Ave. S.
New Hartford, N.Y. 13413

SUN SPOT ACTIVITY is still near its minimum this winter so that low frequency bands have been good for all AWA Nets. Florida stations including W2SHN/4 and W3EFX/4 have been regular check-ins on the Tues. PM ssb net. After the change to Standard time, W8EGF, way up in Michigan comes thru on the 4 PM CW Net. He chills us with his sub-zero reports... apologies to Bud, W2ZK, a bi-polar man!

A NUMBER of AWA members are active on 160 meters including W2LV, W5TOS, WØJF, W2DD, VE3BDV, etc. Bob reports that W2RAA (of 189 kc. fame) is on with a 75 foot vertical and 250 radial ground system. We hope Ed (W2RAA) gets going again on LF. A number of members need such a nudge like W2EB, W2AFE, W2BJI and W2BGN. We could have a 189 kc. net going in Central NY state like W5TOS (Dick) in New Mexico.

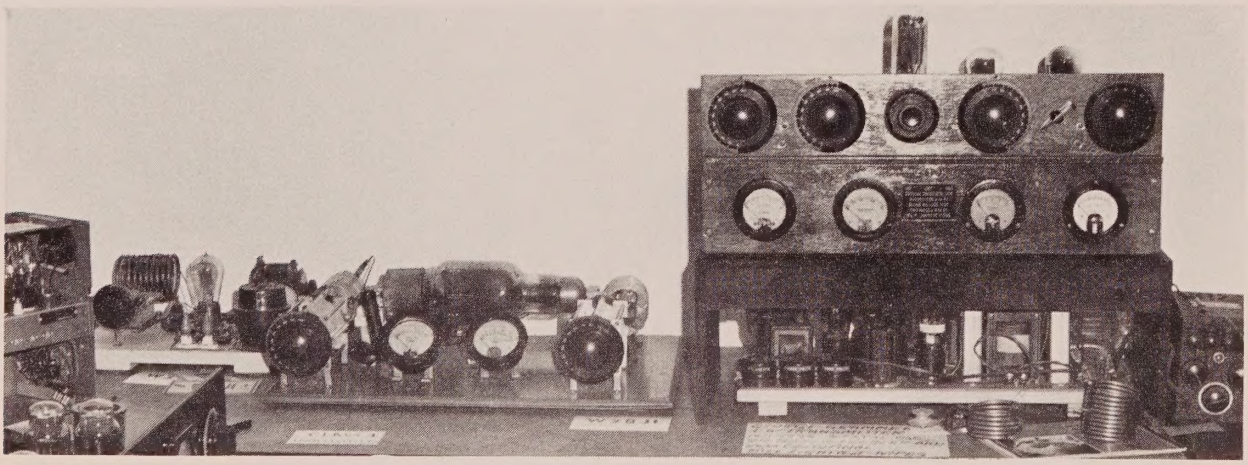
WE SENT a crystal for 3584 kH to Ralph, WA3SNR, but haven't heard him on the air yet. Do you suppose he can't get one of his Atwater-Kent sets to oscillate on 80 ?

W2LV, K2NP and W6AX saw fit to grant the Houck Award to Lou Moreau for her excellent work on telegraph key documentation and other work such as the Johnstown Flood story. Recently Bob got on the 4 PM net with a new "Lightning Bug" (a #6 Vibroplex)..Hmm--mmm ! Bill, what did you get ??

SPEAKING OF the Houck Award, W2DD (who checks into the Sunday Net) presented a nice writeup of AWA Awards in the November 1974 issue of WORLDRADIO NEWS along with appropriate pictures of the recipients: Warren Green, W7JY and Lou Moreau, W3WRE.

It so happens that Bill, W2DD, is the new SSTV Editor for WorldRadio which proves that AWA members are interested and active in modern things also. Bill has worked out a color system for SSTV and has some very interesting pictures transmitted to various parts of the world including some of his pretty YF, Peggy. Wonder when he will make another first like a SSTV pix via satellite or over EME. The pro's do this -- so why not ham radio also..??

ON A RECENT Tuesday eve AWA net, Bruce Kelley, W2AN/W2ICE, proposes that we start building some 50 year old transmitters. That means 1925 or earlier now that we're in '75. We already have two: W1DM with a 1925 and W2BJI a '23. Any more takers with UV-202, UV-201, UX-210, UV-203, UV-204, VT- or 2, 205-A, 205-B, 211-A, 211-B, 211-C, 212-A or 212-B, etc. type tubes ?? If in doubt about your tubes (year) -- check with Jerry Tyne or Howard Schrader.



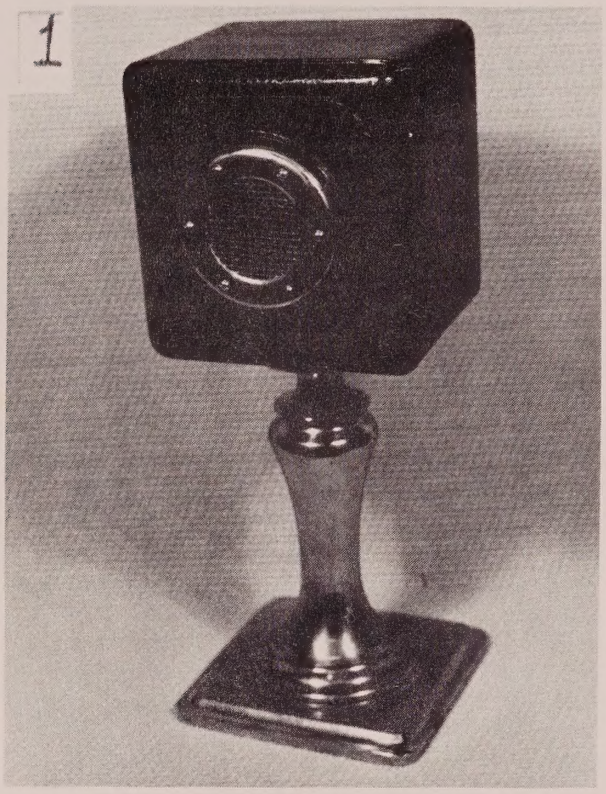
HOMEBREW TRANSMITTERS ON DISPLAY AT 1974 CONFERENCE

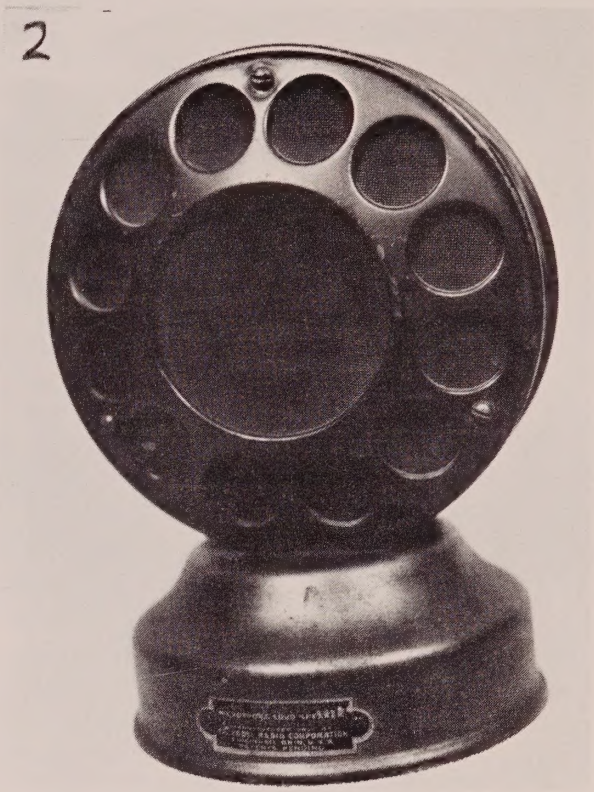
Left: Hartley oscillator using single UV-202, Center: TPTG with UV-204 (both owned by W2BJI). Right: 3 stage xtal control set of 1931 vintage (W1PEG). These transmitters have been heard in AWA OT CW Contests ! In addition to other homebrew xmtrs not seen, there was a vy fb collection of "tailor" made sets making the 1974 Transmitter Display the largest held to date.

Meet the Collectors

MICROPHONES

A.W.A. would like to tell about one of its new members: Bob Paquette of Milwaukee, Wisconsin. Bob's historical interest is narrowed to one subject-- microphone history and development. We asked him to select a few random mikes which would be of interest to fellow historians. The five selections are mostly of 1930 vintage and therefore not considered old-- but they are unusual. Read and see if you don't agree.





#1. Turner condenser microphone made in the early thirties. Designed primarily for funeral home use, it was one of the first made by the company. The box contains a 2 stage AF amp. using type 230 tubes. The condenser element used nitrogen gas to insulate against climatic changes. The base was almost solid bronze with chrome plating. It weighed over 17 pounds

#2. Kodel Microphone/Loudspeaker is actually a magnetic loudspeaker made to look identical to the W.E. mike housing. The base was slightly larger to house the speaker unit. The internal horn was made of plaster formed exponentially.

#3. Bob believes this Hand microphone was made by Telephonics in the late twenties for chauffeur driven cars so that madame could talk to her driver.

4

5

#4 and #5 are both heavy current types made by Electra Voice (not to be confused with present day Electro-Voice). These heavy duty mikes ($2\frac{1}{2}$ amperes) were manufactured in their plants in Chicago and New York sometime before 1927. Note the ammeter in the base of #5. Bob is still trying to find information about the company.

Two New Books Now Ready to Mail to You

Reflex and Radio Frequency

By M. B. Sleeper

"COULD THIS BE THE LAST SPARK?"

Chet Sakura, W9CTI

(This incident was related to the author by Dr. Pierre Stoffyn, research chemist at Harvard Medical Center.)

"While a radio student, I was invited on board the ZEEHOND a sea going tug by the operator who was a fellow student. I was surprised to see the antiquated spark transmitter and 3 tube auto-dyne receiver. He explained that spark was permitted under the 1934 Madrid Conference for emergency purposes (which had expired in December, 1939).

This was in Ostende Harbor, Belgium, in April, 1940 as WWII was around us. The Captain hurriedly came aboard accompanied by four marines because a British mine was reported afloat and he was ordered to locate it.

The Captain was dressed for a party instead of boat duty, and I remembered him placing his bowler hat on a shelf by the wheel. The trip out was amazing because, with full speed ahead, he skillfully piloted the tug thru the mist past close-by sholes.

The mine was located and the marines braced themselves on the pitching deck and in ten minutes had detonated it with a terrific "WHOOOPH" ! The Captain then told the radio operator to send a message to Ostende Harbor station reporting the results.

My friend stood aside and asked me if I wanted to send the message ? So with great pride and thrill I heard the zapping spark as I sent "-.-.- OST de OPDZ -....- MINE LOCATED AND DETONATED .--.- ...-.-" The emergency over, I guess this was QRT for the spark era as war came to Belgium in May."

(Ed. note: The author wasn't sure of the call OPDZ. Broad spark signals became taboo for military work although a fellow E.K. Co. employee tells me spark transmitters were common in China during WWII when he was on duty on the other side of the Burma Road.)

CONGRATULATIONS!

to W3WRE for receiving a well deserved plaque from YLRL for "Research and History of YL's in Communication". The plaque was presented to Lou by Pres. Eila Russell (WA8EBS), wife of our old friend Jim Russell, W8BU. W3WRE has been doing an outstanding job as QST YL Editor and long with other work in this field -- the Award is overdue.

THE LETTER "S"

Every radio historian is familiar with the story of Marconi receiving the letter "S" at Signal Hill -- the first radio signal received across the Atlantic Ocean. The incident has been noted several times in this publication with the latest in this issue and in the December OTB telling how the NEW YORK TIMES reported the letter as "F" and picturing a Morse Register recording the letter.

What we believe to be the most thorough and accurate account of the event was part of an article in the April, 1974 issue of the British magazine WIRELESS WORLD. The author W.J. Baker, appears to be a well informed historian who summarizes Marconi's life on the centenary of his birth (1864-1974). Serious Marconi historians are advised to read the entire article. To induce readers to go further, we reprint a section revealing most interesting information about the famous December, 1901 event noted above.

Another bitter-sweet triumph for Marconi was the famous transatlantic experiment of 1901. The details of this episode are well known, so suffice it to say that Marconi claimed that on December 12 and 13, 1901, he and his assistant, G. S. Kemp, operating a temporary receiving station on a cliff-top at St. John's Newfoundland, received signals in the form of the three dots of the letter S in Morse code, sent by prearangement from Marconi's new high power transmitter at Poldhu, Cornwall.

It would be idle to pretend that this news did not provoke controversy at the time and indeed there is an informed school of thought today that maintains that the signals did not get across. It is not difficult to see why, quite apart from the facts that no witnesses were present and that no further listening watches were possible because of the intervention of the Anglo-American Telegraph Company, which had the message-carrying monopoly in the area. The transmitter at Poldhu was experiencing teething troubles; it was feeding an antenna which had been built in one week (to replace the original, destroyed in a gale). The radiated frequency according to Marconi himself was about 800kHz (366 metres) and therefore quite unsuitable for daylight operation over long distances, although no one was aware of this at the time. The radiated power is not known with certainty but figures lying between 3kW and 12kW have been given.

At the receiving end the antenna consisted of 400ft of wire, elevated at one end by a kite, which was flapping madly up and down in an Atlantic gale. The receiver itself consisted of what was subsequently known as an Italian Navy self-restoring coherer with a telephone earpiece and a Leclanché cell in circuit with it, the whole being connected between the antenna and earth, either directly or via a jigger or h.f. transformer (it is not known which particular approach was in use at the times the signals were stated to have been heard). No tuned circuits were employed and no amplification was possible.

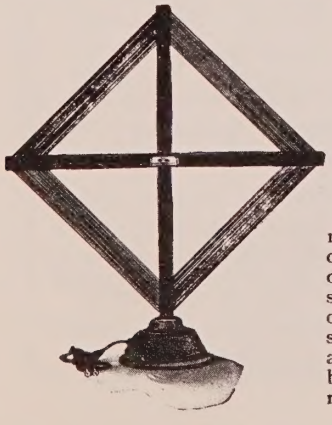
The self-restoring "coherer" consisted in essentials of a glass tube with threaded rod inserted from either end. One rod terminated in a small cylindrical block of iron, the other in a similar block of carbon. The two were screwed into close proximity and a tiny blob of mercury inserted between them. For many years I have maintained a belief that this was not a coherer at all, but a solid-state rectifier with an oxide film on the mercury's surface providing the rectifying agency. One of these devices has recently been examined by Dr G. L. Grisdale of the Marconi Research Laboratories who has confirmed that this is so. The specimen on test was shown to have a rectifying performance (at best) of about 7dB below that of a modern germanium point-contact rectifier.

So, to return to the Newfoundland experiment, it will be seen that the doubting Thomas school of thought has a strong case. Let us now consider the other side of the coin. Marconi would have been insane to have pretended that he heard the signals, as exposure would inevitably follow. Furthermore, for him to have done so would have been com-

pletely out of character, for he was always meticulous in his public statements.

Various suggestions have been made in attempts to account for the mystery. Some have believed that he genuinely mistook static discharges for the three dots of the letter S. This is hardly likely; both Marconi and Kemp were far too experienced to have been thus deceived, particularly as the Poldhu signals were machine-sent and precisely timed. Others have theorized that in all good faith he imagined he heard what he so badly wanted to hear—a common human experience. Others have invoked earth currents in order to explain the matter. Another suggestion has been that he heard faint signals but that these emanated from nearer at hand than Poldhu, and it is true that one or two transatlantic liners were by this time wireless-equipped (the *Lucania* for one was within feasible range). There were also a few shore stations in the USA and Canada and at least one amateur.

Now, after over 70 years of speculation comes a startling theory, namely that Marconi did, after all, receive the Poldhu signals; not, as he believed, on the fundamental frequency, but via a harmonic at h.f. This is a theory which, to my knowledge, has been privately expounded for some years by Mr G. R. M. Garratt, formerly of the Science Museum and a well-known authority on telecommunications history. I believe that detailed calculations are being made and that there is some reason to suppose that these will vindicate Mr Garratt's ingenious and far-seeing suggestions. I understand that the matter has been discussed in a paper at the joint IEE/IERE colloquium "The Marconi Heritage" on April 25.



A Loop Aerial for Distance

This indoor loop is making remarkable records. With Super-Heterodyne sets it gives loudspeaker volume from coast to coast. Green silk-covered wire, mahogany frame, calibrated dial base. Makes direction recording easy.

COMING EVENTS

ANTIQUE WIRELESS ASSOCIATION
SECOND WESTERN REGIONAL MEETING
SATURDAY, APRIL 26th, 1975
9 A.M. to 5 P.M.
FOOTHILL COLLEGE ELECTRONICS MUSEUM
12345 South El Monte Road
LOS ALTOS HILLS, CALIF. 94022

PROGRAM

MORNING:

9:00 A.M. Registration at Museum

9:30 Visit Museum and swap/sale in parking lot.

10:30 Inspect early gear brought in by local collectors.

11:00 Judging of equipment in contest

NOON: 12:00-1:00 P.M. Lunch in campus cafeteria (or bring your own)

AFTERNOON: Technical Meeting (Bruce Kelley M.C.)

1:15 Early Vacuum Tube Development on West Coast. RALPH HEINTZ Sr. founder of Heintz and Kaufman

2:15 Development of Atwater-Kent Receivers (using two projectors simultaneously for comparison.) RALPH WILLIAMS

3:15 Comments and Ribbon Awards for Contest winners.

4:00 120 YEARS OF BRASSPOUNDING (Pictorial show with sound)

CONTEST CLASSIFICATIONS

Best restoration of factory made set
Best receiver pre-WW-1
Best loose-coupler receiver
Best regenerative receiver
Best replica receiver built by owner

ADVANCE REGISTRATION: $1.50 Deadline for lunch reservation -- April 14th

Registration and other information contact Dave Brodie, 315 Cotton St., Menlo Park, Calif.
or Telephone 415-323-0353

Attention S.W.P. Members: Don't forget Annual Meeting at San Mateo, April 19

Change In Address?

Mail information to the Treasurer who handles current mailing list. (NOT the Secretary)

L.A. CUNDALL, W2QY
69 BOULEVARD PKWY
ROCHESTER, N.Y. 14612

ASSOCIATION NEWS

Summary of Minutes

ANNUAL BUSINESS MEETING AND ELECTION

Nov. 10, 1974
East Bloomfield, N.Y.

1. All Officers, Board Members and Association's Attorney were present.

2. Secretary and Treasurer's reports were read and approved. The latter was broken into two parts: Association expenditures and Museum Fund.

3. Four Directors (Board Members) were elected for three year terms: C.Dengler, L. Triggs, D. Deeley and B. Roloson.

4. Pres. Brelsford reported on Oct. 5 Meeting with his Advisory Committee consisting of members from different sections of the country.

5. Museum Committee reported on work status and re-affirmed May 1st as target date for opening with appropriate ceremony.

6. Report and discussion on Museum Endowment Fund. Committee will investigate and recommend means of recognizing members who have donated money to Fund.

7. Board voted to join American Association for State and Local History at a cost of $25.00 per year.

8. Lengthy discussion concerning recent Conference and location for 1975. Comments from members attending Conference and the Advisory Committee indicated Canandaigua as first choice. The Board approved this location but agreed to check other locations before final decision was made.

9. The Board voted to actively participate in meets at: Foothill college (Calif.), Indiana, Rhode Island and at Breesport and to subsidize a member (or members) traveling expenses not to exceed $400.

10. Ken Gardner reviewed Old Time Transmitter and Net Activity and gave dates for 1975 OT CW Contest.

11. The 1975 Budget was read by Assistant Treasurer Deeley and after some discussion was approved.

12. L. Cundall suggested a change in the Houck Awardwhich he will discuss with Award Chairman R. Morris.

Submitted by: H. A. Blodgett
Recording Secretary

HOUCK AWARD

1975

The Awards Committee again requests recommendations from members for nominations from members for the 1975 HOUCK AWARDS. The primary Award is for historical documentation in the field of radio communication. Special significance is placed on material which but for the author's efforts might have been lost. The Award's purpose is to encourage and bestow honor upon those doing outstanding work in A.W.A.'s principal field of interest. Previous recipients are Thorn Mayes, Bruce Kelley, Gerald Tyne and Louise Moreau.

An Award is also presented for collecting and preserving equipment and documents in the field of electrical communication

An Award is also presented for collection and preservation of equipment and documents in the field of electrical communication. Nominations for both the Historical Award and the Collectors Award may be made by any member of AWA and should be forwarded to the Awards Committee Chairman no later than 15 May 1975. It is only by having such recommendations from AWA members that the Committee can hope to make the appropriate recommendations to the Board of Directors.

Please send nominations to Awards Chairman: Robert Morris
R.D. #1 60 Sunset Lake Rd.
Sparta, New Jersey 07871

Annual April Meeting

BREESPORT, NEW YORK

"Peckham Museum"

SATURDAY, MAY 3, 1975

10:00 A.M.	--	Swap Session
12 Noon	--	Luncheon
1:00 P.M.	--	Short Business Meeting
1:30 P.M.	--	Theater organ and piano entertainment
2:00 P.M.	--	Informal discussion on value of early receivers and other equipment.

Devoted to research and documentation of the history of wireless communications.

Member:
American Association of Museums
Regional Conference of Historical Agencies

ANTIQUE WIRELESS ASSOCIATION, INC.

HOLCOMB, NEW YORK 14469

Founded 1952. Chartered as a non-profit corporation by the State of New York

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Lincoln Cundall
ASSISTANT TREASURER
Dexter Deeley

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PHOTOGRAPHER
Al Crum, W2BWK

AMATEUR STATION: W2AN

News Journal
OLD TIMERS BULLETIN

EDITOR: Bruce Kelley
MAKE-UP EDITOR: Larry Triggs
CONTRIBUTING EDITORS: Jerry Tyne, Lauren Peckham, Ken Gardner
PRINTER: Don Ray

The OLD TIMERS BULLETIN is published approximately four times a year at Holcomb, N.Y. by and for members of the Antique Wireless Association, Inc., a non-profit historical society chartered by the State of New York.

This publication does not accept paid advertising nor is it liable in any way in any buying or selling transaction entered into by its readers as a result of its contents. The Old Timers Bulletin is available only as part of the Antique Wireless Association membership fee and its issuance is subject to change as to frequency, content and size from time to time.

NEWS and general CORRESPONDENCE, write Secretary: BRUCE KELLEY
MAIN ST., HOLCOMB, N.Y. 14469

Membership DUES and ADDRESS CHANGE, write Treasurer: LINCOLN CUNDALL
69 BOULEVARD PARKWAY, ROCHESTER, N.Y. 14612

BACK ISSUES

Rare and valuable reference

The following OLD TIMERS BULLETINS remain in stock. Order direct from Secretary: Bruce Kelley, Main Street, Holcomb, N.Y. 14469

$.80 per issue --- 3rd class mail
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13---1	14---4	15---4

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Reprints for reference only:
Vol. 1 #2 Vol. 1 #3 40¢ each

1975 CONFERENCE

The 1975 Conference will again be held at the Sheraton Inn, Canandaigua. Consideration was given to other locations but when all pro's and con's were weighed the upstate New York site came out ahead.

As an example -- AWA has shown much interest in having another Conference at the great Ford Museum, Dearborn, Michigan. Recent correspondence with the museum tells of changes being made this year in their technical area and it was difficult to determine whether the radio section would be on display in October. Under the circumstances AWA had no choice but to look elsewhere.

Membership Application and Dues

As result of numerous requests, we are enclosing a Membership Application with this issue. Please sign and give to a friend who may be interested in historical radio. Membership dues are $5 a year.

RECENT RADIO and ENTERTAINER OBITUARIES

Milton Cross, Voice of the Met, Is Dead

January 3, 1975, New York City
77 years

He started as a ballad singer at old WJZ in 1922. His voice and ability as a broadcaster soon overshadowed his singing and he became one of the leading and oldest announcers in the country. He is best known for his opera broadcasts which he inauguarated at the Metropolitan Opera in 1931.

Aleksandr L. Mints Dies; Soviet Radio Engineer

Moscow, U.S.S.R., Jan. 2, 79 years

Aleksandr Mints was the engineer who built many of the largest broadcasting stations in the Soviet Union. He was the recipient of Awards and Medals including the Stalin Prize (1941) and the Lenin Prize (1959).

Large-Capacity Magnetic Bubble Memory

A "magnetic bubble" memory that can store information equivalent to 27,000 telephone numbers has been developed by Bell Laboratories. With a storage capacity of 460,544 bits of information, the new memory packs the largest amount of data in the smallest package. The bubble pack is 3¾ inches long by 1¾ inches wide by 13/16-inch deep. Magnetic bubbles are minute, magnetized areas only one-sixteenth the diameter of a human hair, located in thin films of crystalline magnetic material. These magnetic areas can be created, erased, and moved about electronically to store and transport data in computers, minicalculators, and telephone switching systems. The memory has an average access time of 2.7 thousandth of a second, a data rate of 700,000 b/s, and a read error of less than one error in 630 billion read operations.

ALLIED RADIO

Allied Radio, the original parent company of Allied Electronics, was established in 1922 out of Columbia Radio Corp., founded in 1921. Allied was one of the first companies to sell radio parts and kits for builders by mail. In 1928, many stores were added to the business and after a reorganization in the depression years, Allied's business rapidly expanded in the ham and experimenter fields. During the World War II years, Allied was actively engaged in handling government contracts and expediting high-priority industrial orders. Out of this war-time business came Allied Electronics as the industrial distribution subsidiary. After the sale of Allied Radio and its subsidiaries in 1970 to Tandy Corp., Allied Electronics became a separate division under the Manufacturing and Distribution group of Tandy Corp. Today, Allied Electronics serves a broad-based industry market along with government agencies, schools and institutions.

Glenn Hazzard Browning, was electronics inventor

As noted in the December issue of the OTB, our good member Glenn Browning became a Silent Key Nov. 16. He first gained recognition with his famous Browning-Drake circuit of the 1920's. He was president of the Browning-Drake Co. in the mid-1920's and in 1937 he formed the Browning Radio Laboratory. He lived in Sebago, Maine and until recent years spent his winters in Florida. Glenn expressed a desire to attend one our AWA Conferences but unfortunately never made it.

DR. WALTER CADY, A PHYSICIST, DIES

Ex-Professor at Wesleyan, a Caltech Aide, Was 99

Pioneer in quartz crystal control in radio equipment. Worked at General Radio Co., Bell Labs and Naval Research Labs. (K2NP)

SILENT KEYS

GEORGE WETMORE, Jacksonville, Fla.
VICTOR DION, K2UBA, Victor, N.Y.
PAUL REUTER, W9ROV, Robinson, Ill.

SPRING MEET at
BREESPORT, N.Y.
Saturday
May 17th...
LOTS OF ACTION !

AWA NETS

PHONE

Sunday -- 12 noon
3903 Kc.

Tuesday -- 8 P.M.
3865 Kc.

CW -- 3584 Kc.

8 P.M. First Wednesday of each month

4 P.M. Daily

E.D.S.T.

GOOD READING

AUSTRALIA'S RADIO PIONEERS

is a series of four articles published in the Australian magazine ELECTRONICS starting with the May, 1974 issue. The learned historian will find the series of interest since it covers the development of wireless in Australia from the earliest days: pioneers, stations and manufacturing concerns.

It may be a little disconcerting to readers since the abbreviation "AWA" keeps popping up ! -- Amalgamated Wireless Australasia -- not Antique Wireless Association.. (Perry Ferrell)

Marconi

Members interested in the Marconi Anniversary and not fortunate to have access to the British magazine noted elsewhere in this issue will find a like article in the December, 1974 I.E.E.E. SPECTRUM.

The author's approach is somewhat different and covers material not found elsewhere. There is also the familiar picture of Marconi and Kemp with the correct caption: "the photograph was taken after the transatlantic test" -- presumably in England. (W3AW)

Some Things You Should Know

--that gassy tubes can damage old audio transformers ? An example would be the use of gassy 864's on the sensitive Radiola III-A AFT's which seem to go with least provocation. (Frank Pagano)

-that you had better double check resistors without a silver or gold tolerance ring for critical circuits. As an example: a non-coded 220 ohm resistor could be anywhere from 176 to 264 ohms (allowable tolarance range) whereas one with a gold-band tolerance code has a range from only 209 to 231 ohms, etc.

-- do not use electrolytic capacitors (we call them condensers) with a voltage well below their rated level. Their operation involves using the applied voltage to ionize the electrolyte in them and this requires the application of a certain minimum voltage.

(Tips from TAB's "Electronic Experimenter's Guidebook")

WIRELESS TELEGRAPHY

is a beautiful book selling for $32.50 and covers a collection of papers presented at the Royal Institute in London from the years 1857 to 1932. It starts with the "Submarine Telegraph" by John Brett (1857) and ends with Marconi's work on "Very Shortwaves". Write: Halsted Press, 605 Third Avenue, New York, N.Y. 10016

Philatelic News

Canadian Issue For Marconi

On the subject of mis-information, Ed Redington called our attention to a lengthy article in the Washington STAR-NEWS Philatelic Section telling about the recent Canadian Marconi stamp.

The writer relates in great detail the events leading up to the 1901 Trans-atlantic reception of the letter "S" (not "F").

Apparently he didn't like the kite idea for he changed it to a balloon on two different occasions. An example is at right...

ing the harbor to set up his station. By Dec. 11 everything was ready and he sat down to listen for the prearranged signal, the three dots of the Morse code letter S. They came through faintly from 1,700 miles away just before the wind tore away a balloon supporting the aerial and ended the experiment.

The issuance of the Canadian stamps brought letters from members enclosing the official envelope and stamp for the large A.W.A. Communication Stamp display to be located in the new museum. Bob Cobaugh tells us other countries are also printing stamps commemorating Marconi's 100th Birthday such as Italy, Laos, Rwanda, Monaco and Portugal.

ANTIQUE WIRELESS ASSOCIATION

Don't forget the California Meet at Foothills College, April 26th.

S.W.P. Members: There will be the Annual Meeting SATURDAY April 19

Broadcast of the Fight

By Tim Turkey

THE blow by blow narrative of the world championship heavyweight boxing contest between Jack Dempsey, champion, and Gene Tunney, contender, was broadcast by thirty-three stations. That made the broadcasts from the 500 others stations nothing more than rehearsals.

* * *

Thus within ten days two of the greatest tieups of stations were accomplished —the Radio Industries Banquet, with 43 stations in perfect program accord, the world's record, and the fight, with ten fewer. The craze is growing so steadily that soon we may expect the amateurs to ask to be tied in with some imposing chain.

* * *

There was a lot of selfishness attendant on listening to the fight over the radio. It is estimated that 25,000,000 persons listened in. They differed from the 135,000 at the ringside in Philadelphia, because many a dear grandmother was forced to snatch her rocking chair doze during the most exciting stages of the fight, if any.

* * *

This was the first heavyweight championship that changed hands without a knockout. It can't be that Dempsey stood up all through the fight just because of a desire to appease the radio audience that had counted on a full forty minutes of fight entertainment.

* * *

The farthest East point from which the broadcasting was done was from WCSH, in Maine, and the farthest West, from KGO, in California, both coastal points. Eight stations, all told, chimed in West of the Mississippi, the other 25 East of that handy geographical river.

* * *

Tex Rickard, promoter of the fight, gave several negotiators the surprise of their life when he demanded $50,000 for permission to allow the fight to be broadcast. This figure was so staggering that the days rolled around without any one recovering sufficiently to show a sign of saying yes. So, three days before the fight, Tex began to wonder if any one would take him up. If not he would get the difference between what he could get and what he did not get. He prudently decided not to be out anything, and the rights were bought by George Ed Smith, for the Royal Typewriter Company, of which George Ed is president. The price is said to have been nearer $25,000.

* * *

Tall hustling had to be done by the telephone company and the stations so that the fight could be put on the air, and not until the whole thing was over did those in charge of the technical work heave a sigh of satisfaction and relief.

* * *

Major J. Andrew White and Graham McNamee were the fight announcers for the radio, while a ballyhoo from the ringside did announcing intended for the arena audience only, but which got on the air very plainly at times, together with the ticking of the telegraph keys.

* * *

Major White was serving for WJZ and its augmented chain, while McNamee was batting for WEAF. During the preliminaries they took turns in telling about complete fights. Each told the story of one whole fight. But when the big event arrived it was fortunate that Major White was in charge of this completely, with Mac doing interesting talking between rounds to give Major J. Andrew a one-minute breathing spell.

* * *

The Major proved again that, though he is ornate, he has the true dramatic instinct and a very fine command of terse and punchy language amid exciting circumstances.

* * *

Mac must spend a great many evenings in the studio or on remote control jobs, doing his announcing, and must miss many fights. The Major, on the other hand, is primed with the latest information from visual observance, and is in training, as it were, for fight broadcasting. Hence it was not surprising that he could outclass Graham at this ringside talkfest work.

* * *

At this business Graham is great but J. Andrew is greater.

Broadcast of Fight

* * *

Many noticed that Graham, whenever he discovered any fighter accomplishing anything easily, said the fighter did whatever he did, "without any trouble at all." In fact, he said that seven times, which is once too often for one evening.

* * *

Major White, during the first round, in a few words gave the listening audience a true picture of Dempsey by saying: "This is not the Dempsey that we know, but a very cautious and conservative fellow. This is a different Dempsey." The listeners, excepting grandmothers' quickly sensed that the fight was not going the champion's way.

* * *

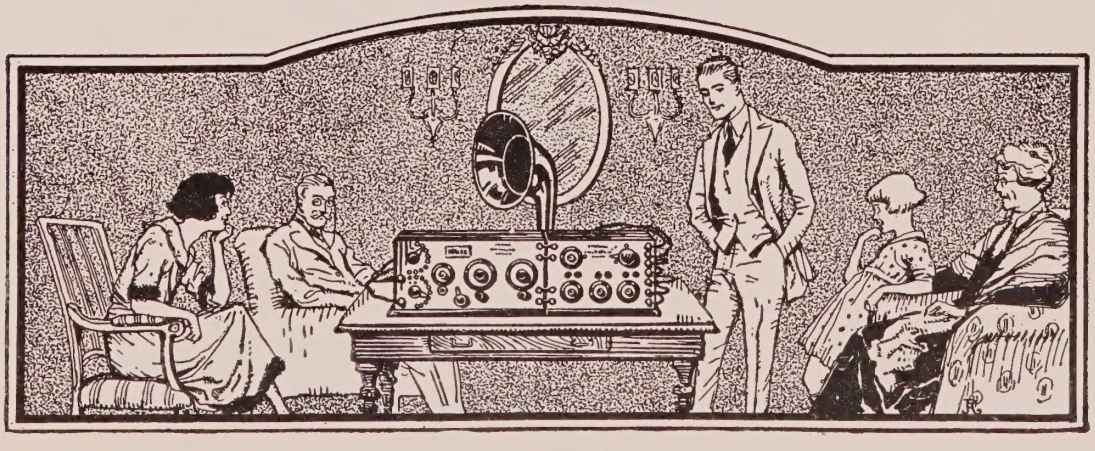
The first round provided a real thrill, in that it surprised everybody. While some thought Tunney had a good chance to win, even before the first blow was struck, no one seemed to expect a walkover, and the first round (with the usual reservations against accidents), foreshadowed that kind of a shoe.

* * *

One thing both Major White and McNamee did not bring out for the benefit of the radio audience. When Tunney entered the ring he was greatly cheered. That was announced. When Dempsey entered the ring there was a round of applause. That, too, was told. But when the ringside announcer or ballyhoo introduced Dempsey as the "champion who has defended his title for six years," there was a generous round of hisses and boos, if one can suggest any generosity attaches to the like. No mention of this was made and I think charity was carried too far. We like our hissing information when we're entitled to it.

When the fight was nearing the end the rain started in earnestly and both Major White and McNamee, and the 134,998 others, got drenched, while the radio fans snuggled closer to the speaker. Then came the judges' decision that the 10-round fight was won by Tunney, new world champion. Tunney spoke into the microphone, which was lifted into the ring for the purpose, and said he would defend his title like a Marine, mentioning that the Marines are always first to fight and last to leave. But it was noticed that Tunney quit the premises before the referee did.

Members write they like variety in AWA Bulletin. I am sure you will agree this one is REALLY different: the description of the famous Dempsey Tunney fight as printed in the Oct. 9, 1926 issue of RADIO WORLD. The occasion was a milestone in radio history for it had one of the largest audiences to that date. The author appears to have a flare for dissecting the fight as well as the two announcers.



UNUSUAL EQUIPMENT IN THE A.W.A. MUSEUM

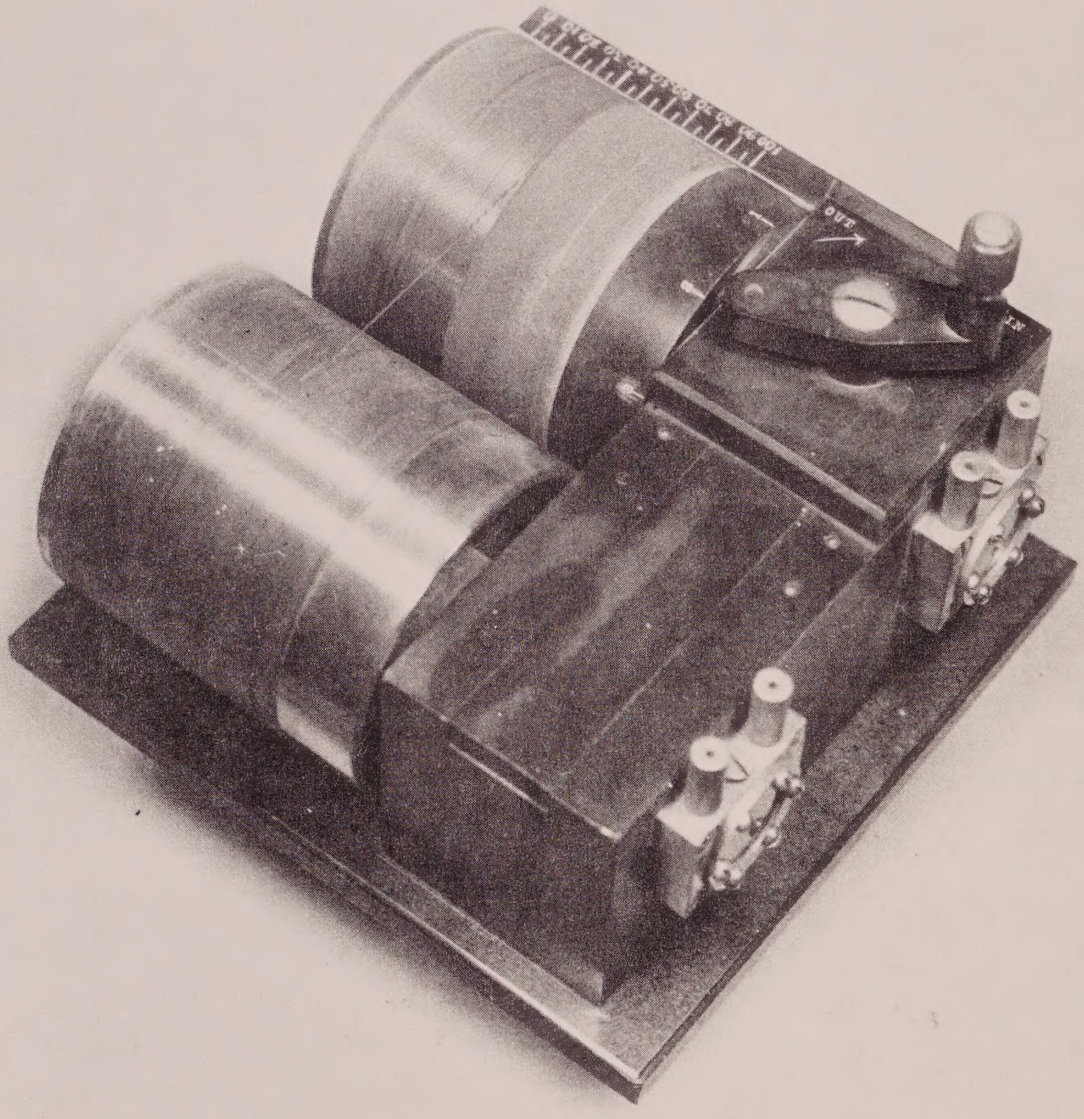
Starting with this issue there will be a new column in the Bulletin titled "Unusual Equipment". As a start we'll show and tell about an unusual tuning coil used before WWI. The coil(s) was acquired from N.R.L. and is somewhat similar to a variable inductor used by the old Massie Wireless Company.

Its a very clever arrangement. The unit consists of two coil forms-- one made of brass and the other of hard rubber. The forms are mounted on shafts with bronze bearings. On the end of the bearings (at right) are cups filled with mercury to insure perfect contact to the wire wound on the coil.

Bare copper wire is strung between the 2 forms. By turning the knob (upper right) one can wind up over 100 turns on the rubber form for maximum inductance-- or by turning the knob in the opposite direction one will decrease the inductance to 1 turn (the bare copper wire is shorted to the brass coil form !)....

Unlike other variable inductances of the time which allowed one to select individual turns of wire (tapped switch or a slider) this arrangement allowed the operator to select a minute fraction of a turn !

The nearest approach to a variable inductor in modern times is the contact wheel type such as used on the antenna coil in the familiar WWII Command transmitter.



IMPROVE YOUR RECEPTION
WITH A
KIC-O Storage "B" Battery

THE PRECISION EQUIPMENT COMPANY
Pres.
1145 Vandalia Avenue CINCINNATI, OHIO

MODERN OPERATION WITH OLD TIME TRANSMITTERS

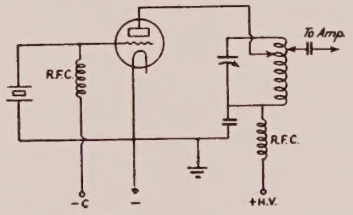
Ken Gardner, W2BGN

THREE-TUBE CRYSTAL-CONTROLLED TRANSMITTER

Frequency stability in an oscillator can most easily be obtained by the use of Quartz Crystal control. If all the precautions listed in previous articles about oscillators are observed, a crystal controlled oscillator may be keyed and made to feed an antenna directly. Usually, however, it is followed by an amplifier.

POWER OSCILLATOR CIRCUIT

The best crystal oscillator circuit for transmitters is the one shown in the diagram. It is similar to the tuned-grid tuned-plate except that the crystal replaces the grid tank circuit. Its action is identical with that of the t.g.t.p. circuit. When the plate tank circuit is tuned to a frequency slightly higher than the natural frequency of the crystal, the feed-back through the tube excites the grid circuit and the crystal, due to its piezo-electric properties, oscillates at its natural frequency — *and at that frequency only.* A very good power oscillator arrangement is that shown in the accompanying illustration. The tank circuit for a 3500-kc. oscillator may consist of 18 turns of No. 14 wire or small copper tubing on a 3-inch diameter and a 250-$\mu\mu$fd. receiving-type variable condenser. The plate connection to the oscillator tube may be made at about the center



THE POWER CRYSTAL OSCILLATOR CIRCUIT
The plate tap on the tank inductance permits control of the grid excitation.

of the inductance to limit the grid excitation and to secure maximum power output from the oscillator, although usual amateur practice is to place the plate tap directly at the end of the inductance.

Bringing the plate tap down on the tank inductance is particularly advantageous when the plate voltage on the crystal oscillator tube is much over 250. The tube may draw more plate current and work at reduced efficiency but the power output will be greater and the oscillator will operate more stably. Since the feed-back which maintains oscillations is through the grid-plate capacity of the tube, its value will be set by the amount of inductance between the plate connection and the filament of the tube. The larger the feed-back the greater will be the radio-frequency current through the crystal circuit. Excessive r.f. crystal current will cause the crystal to heat, as a result of the increased amplitude of mechanical vibration with greater excitation. This will cause the frequency to creep, and, if carried too far, may cause the crystal to crack. Frequency creep is caused by the temperature-frequency coëfficient of the crystal.

Nearly all three-electrode tubes with low or medium values of plate impedance will be satisfactory as crystal oscillators. The Type '10 and Type '45 probably are the most popular, since they will handle voltages of the order of 250 nicely and will deliver a reasonable amount of power at that voltage. Smaller tubes will do with lower plate voltages. Low plate voltages are in fact preferable since frequency creep and the danger of cracking the crystal are reduced. In no case should the plate voltage be greater than 400 volts with triode tubes. Recent investigations have shown that the Type '47 pentode is an excellent crystal oscillator tube, giving about the same power output as the triodes at the same plate voltage but with much less radio-frequency current in the crystal circuit. Plate voltages up to 500 may be used with the pentode with no more danger to the crystal than with 250 volts on the triodes. Such voltages are not recommended, however, since they are almost double the rated plate voltage of the '47. Most satisfactory operation is secured with the pentode when the screen voltage is maintained at 90 to 120 volts for plate voltages of 180 and higher. The screen grid should be effectively grounded through a large by-pass condenser, 0.05 μfd. or more. In other respects the circuit is the same as that shown.

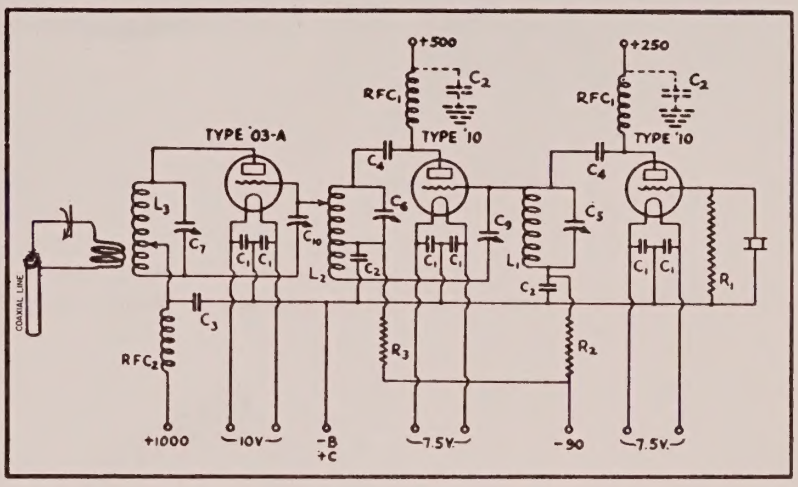


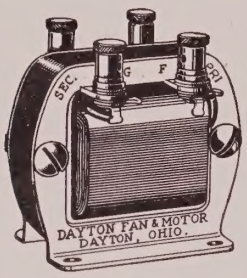
DIAGRAM OF THE THREE-TUBE TRANSMITTER

C_1 — .004 μfd.
C_2 — .002 μfd.
C_3 — .002 μfd., 5000-volt rating.
C_4 — 250 $\mu\mu$fd.
C_5 — 250-$\mu\mu$fd. variable.
C_6 — 350-$\mu\mu$fd. variable.
C_7 — 250-$\mu\mu$fd. variable double-spaced. (The one shown in the photograph is a Cardwell 43-plate receiving condenser with alternate plates removed.)
C_8 — 500-$\mu\mu$fd. variable.
C_9 — 13-plate midget.
C_{10} — 50-$\mu\mu$fd. double-spaced condenser (Cardwell 410-B).
L_1 — 21 turns of No. 12 enamelled wire on 2-inch bakelite tube.
L_2 — 10 turns of No. 12 enamelled wire on 2-inch bakelite tube with slight spacing between turns. Neutralizing coil consists of 6 additional turns, close-wound, ¼-inch from tank coil.
L_3 — 3500 kc. — 20 turns of 3/16-inch copper tubing, 2½-inch dia.
7000 kc. — 12 turns of 3/16-inch copper tubing, 2½-inch dia.
14,000 kc. — 7 turns of 3/16-inch copper tubing, 2½-inch dia.
Spacing between turns approximately equal to half the diameter of tubing.
L_4 — 11 turns same.
R_1 — 20,000 ohms, 2-watt rating.
R_2 — 50,000 ohms, 2-watt rating.
R_3 — 10,000 ohms, 5-watt rating.
RFC_1 — 3-inch winding of No. 36 s.s.c. on ½-inch form.
RFC_2 — 3-inch winding of No. 32 s.s.c. on ½-inch form.

-- A note of caution ! --
Quartz crystals smaller than those fitted into FT-171 holders should NOT be used with power triodes. Use receiving triodes or pentodes. It is well to use a protective lamp in series with crystal or monitor with thermo-milliameter.

THE AMATEUR BUILDER

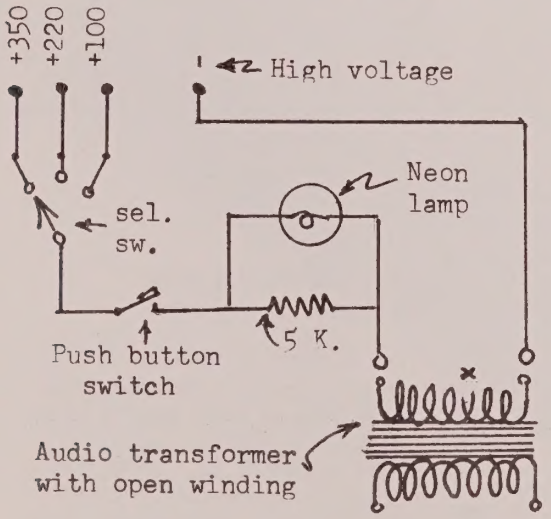
OPEN AUDIO TRANSFORMERS



Much has been written on the subject of rejuvenating old audio transformers. Among methods tried includes jolts of raw 117 volt AC across the open winding, great jolts of 'juice' from a large capacitor and even a shot from an old coil. All of these methods have been tried and have been successful in a number of cases. Great ! Anytime you can create something out of next to nothing you have succeeded.

One can even gut an old AFT and insert a tiny Japanese one. It works but no real collector would advertise a set as 'mint' if it had altered transformers.

I would like to tell about a system that that has worked five times out of five attempts. It may not be the absolute remedy since it may fail the next 85 times ! However, for what it is worth, here is the circuit.



The problem is to create an arc for one or two purposes: we must either create a carbon path between the separated ends of the hair-fine #40 wire thus creating a path for current, or to weld the two ends into one. Too much current will react exactly as a fuse -- the very fine wire will burn and your objective is defeated. Voltage is the only solution -- and a pure DC -- (non-pulsing).

Note the various inputs in the schematic from 100 to 350 volts. Always start with the least amount. The source of power is your choice. The switch is a momentary contact push-button type for instant release.

The load-limiting resistor is 5000 ohms assuming a coil resistance of about 250 ohms. If higher, the load resistor must be reduced according to ohm's law. The action of the resistor is to absorb voltage the instant the coil is healed. This is absolutely imperative !

The neon glow lamp across the resistor is one requiring about 65 volts to fire it. Its action is to glow immediately upon healing the coil. It will not glow as long as the coil is 'open' or after the push-button is released.

In use, always start with the lowest voltage. The switch should be pushed momentarily. If the light does not glow, try it again, and again, for maybe a half dozen times. Then move up the scale to the next voltage. The instant the light glows -- shut if off for you've made contact ! Success ! Don't be dismayed if you don't have luck. As mentioned earlier, there are always small replacement AFTs or you can even turn to resistance coupling around the open winding.

Remember -- the higher jolts may succeed in one area but in dealing with this fine spider-web wire you may have opened another area where corrosion has taken its toll. If this is the case, dig out these old failures and try again. A shock break is infinitesimal, but a corrosion separation can be wide requiring more voltage.

Don't concern yourself over amperage since all that is required is in milliamps -- say, not over 20 ma.

I would like to know your results and would appreciate suggestions.

John Noble, P.O. Box 171
Loveland, Colo. 80537

A book you will enjoy!

We just bought the new 1975 A.R.R.L. HANDBOOK and still find it the best buy for an all around technical book. There are numerous sources for this book including radio supply houses. As last resort, one may buy direct from A.R.R.L. ($5.50):

255 Main Street
Newington, Conn. 06111

A more prestigious HANDBOOK (and more costly) is one edited by Bill Orr, W6SAI, which is almost an entire electronic library in one large volume. Every amateur and experimenter should have at least one recent edition of this fine book in their library.

Another book to go across our desk is one titled ELECTRONIC EXPERIMENTER'S GUIDEBOOK printed by TAB books. This 182 page softbound book is just full of information for the lay builder as well as advance experimenter. It introduces one to solid-state circuitry and gives detail information on how to build a simple regenerative type shortwave receiver (which should be of interest to old timers) plus many other home construction projects. Price $4.95

TAB also has a book for the amateur interested in FM REPEATERS. The author, Ken Sessions, K6MVH, a pioneer in the field, gives basics and then a whole series of construction projects plus FM repeater info. Price: $5.95

TAB BOOKS
Blue Ridge Summit, Pa. 17214

And lastly, one should write for the latest book list from Morgan McMahon who specializes in publications for the historian and experimenter who collects and restores old receivers. It is now a lengthy list and includes several volumes of pre-WWII receiver circuits. Write:

Vintage Radio
P.O. BOX 2045
PALOS VERDES PENINSULA,
CALIF. 90274

News Notes

The book radio historians and engineers have been anxiously waiting for will go to the printer in the very near future. The book ? -- Jerry Tyne's history of the vacuum tube. More later.

New Equipment

It has been several years since we've seen a BURNSTEIN-APPLEBEE catalog. The 1975 issue was a pleasant surprise for it remined us of the old days when a mail order house catalog was just full of components. B-A carry a fairly complete line of Stancor transformers, Bud cabinets, Amphenol connectors, Sprague condensers (capacitors !), J.W. Miller coils, Mallory/Centralab switches and other familiar trade names plus Motorola and RCAsemiconductors and tubes. We were also fascinated with a special yellow page section in the rear offering bargains on various items. There is a nominal fee for the catalog to off-set mailing. Write:

burstein-applebee
3199 MERCIER, KANSAS CITY, MISSOURI 64111

EARLY TUBES

Members frequently write seeking information where to buy early tubes. They have found the current RCA lists no longer carry tubes before 1935 other than maybe the 80 rectifier. Here are two sources that still list early vacuum tubes. Just don't think, however, you're going to see 201As WD-11s,,, that is another story. You will find 24s, 27, 30, 34, 38, 46 and even 50s..

Suggest you write for their latest listing. We haven't ordered from either company so can't guarantee their service. (Modern Radio Labs ask 25¢ for catalog mailing which is refundable.) Barry (N.Y.C.) and others have fairly good listings, What have been your findings ?

CrCo Communications
2115 AVENUE X BROOKLYN, N. Y. 11235

MODERN RADIO LABORATORIES
P. O. Box 1477 Garden Grove, Calif. 92642

MID-AMERICA ANTIQUE RADIO CLUB
is a new organization recently formed in Kansas City, Mo. The group plans several local "meets" and lots of activity. Area collectors are invited to join. Write for information:

Bob Lane
2301 Independence Ave.
Kansas City, Mo. 64124
(Tele. 816-241-6796)

Communications news

HEADLINES TODAY -- HISTORY TOMORROW
(Clippings from current newspapers and trade journals)

HAPPENINGS IN U.S.S.R.

Illegal broadcasting by homemade transmitters has become a persistent and growing youth cult in the Soviet Union. After *samizdat* (clandestine publishing of dissident writings) and *magnitizdat* (circulating tapes of unorthodox poetry and music), there is now *radioizdat*—air-it-yourself programs of pop music, teen-age talk, messages to girl friends and even dirty jokes. All of which represents a somewhat refreshing contrast to official state-controlled broadcasting, which is apt to be long on lectures about beet growing and the life of Lenin, but short on entertainment.

Green Ghost. In the Ukrainian city of Donetsk (pop. 900,000), youthful would-be deejays adopted such sprightly call signs as "Buzz Saw," "Green Ghost," "Graveyard Goon," "Bullet Hole," "Spark of Love" and "The Invisible Man." The police were not amused. In an effort to make a clean sweep of the cluttered airways, 1,000 amateur Donetsk broadcasters—called "organ grinders" by the police—were arrested and fined 50 rubles ($69) for "violating rules governing the use of radio frequencies." There have been similar efforts to clamp down on underground broadcasts in other major cities.

Zenith Shuts Lansdale Unit

Probe Takeover by White Of Westinghouse Division

Sylvania Agrees to Buy Philco Taiwan TV Plant

Dramatic TV Recovery Predicted by Zenith Chief

Members of the SOCIETY OF WIRELESS PIONEERS Rededicate Famous Landmark

Marconi Memorial Set on Telegraph Hill

SAN FRANCISCO

The beautiful medallion/Monument honoring Senator Guglielmo Marchese Marconi)1874-1939) was initially dedicated Sept. 11 1939. It was rededicated by members of the Society of Wireless Pioneers at its new site on December 10, 1974 in a ceremony honoring this great man.

The Memorial was removed from its original site three years ago due to heavy rains undermining its foundation. The relocation of the Memorial has been one of the Society's projects since that time. Credit must be given to Mr. Butler J. Osborne, Chairman of the Ad Hoc committee and Mr. Mario J. Spagna for obtaining the City's cooperation in relocating this famous statue.

The new site of the Marconi Memorial is beautifully located on Lombard Street where it starts up Telegraph Hill. President Eben K. Cady and William A. Breniman, the founder and Director of the Society made short addresses.

Many members of the Golden Gate Chapter were in attendance representing the 1600 plus members around the world - and many still sailing the "Seven Seas".

$3.2M U.S. Navy Pact to Marconi

Economy Sag Puts Technology Back

New Intelsat IV Satell. Starts Commercial Servic

WASHINGTON — The Intelsat IV satellite launched in November from ... naveral has begun commercial ... th ... Ocean.

TI to Lay Off 9,000 More This Quarter

DALLAS

Solderless Bond by It

Bay State Firm

At Western Union

Import Effects Eyed at GE Plant

$250M UK Trade Deficit

$616M by Ampex

Electronics Sag in '74

Disaster Stock Skid Warning Sy

alleges that ... all of the

Laying Off 850 At Motorola Auto Div.

Motorola Facility Gutted by Fire

IEEE Ebers Award Conferred on Grove

SANTA CLARA, Calif.

Collins Awarde

1.5M Subpact

itrust Suit

M by Sano

"Under New Proprietorship"

GTE Sylvania and Philco-Ford jointly announced an agreement under which the former would acquire the Philco name and distribution rights for home entertainment products manufactured by Philco-Ford's Home Products Division, and sold in the U.S. and Canada. The agreement does not involve Philco-Ford's line of home refrigerators and freezers, its Telesound operations, or its automotive products. In another development, North American Philips Corp. acquired about 85 percent, or 15 million shares, of the outstanding stock in the Magnavox Company.

Armstrong Foundation seeks to expand activities

The Armstrong Memorial Research Foundation, named for the inventor of FM broadcasting, has launched the first public ... history in ...

FCC Changes Rules on Distress Signal Frequency

Dumont Scop